



OWNER'S MANUAL

75 lb. HD STACK LAUNDRY DRYER

Gas: Natural and LP
Steam



HD75ST

Cissell Manufacturing Co.

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THIS MANUAL MUST BE GIVEN TO THE EQUIPMENT OWNER

MANHD75ST 05/02

IMPORTANT NOTICES—PLEASE READ

For optimum efficiency and safety, we recommend that you read the manual before operating the equipment. Store this manual in a file or binder and keep for future reference.



WARNING: For your safety, the information in this manual must be followed to minimize the risk of fire or explosion or to prevent property damage, personal injury or loss of life.

- Do not store or use gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance.

- WHAT TO DO IF YOU SMELL GAS

- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone in your building.
- Clear the room, building or area of all occupants.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

Installation and service must be performed by a qualified installer, service agency or the gas supplier.



WARNING: In the event the user smells gas odor, instructions on what to do must be posted in a prominent location. This information can be obtained from the local gas supplier.



WARNING: Wear safety shoes to prevent injuries.



WARNING: Purchaser must post the following notice in a prominent location:



FOR YOUR SAFETY

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.



WARNING: A clothes dryer produces combustible lint and should be exhausted outside the building. The dryer and the area around the dryer should be kept free of lint.



WARNING: Be safe, before servicing machine, the main power should be shut off.



WARNING: To avoid fire hazard, do not dry articles containing foam rubber or similar texture materials. Do not put into this dryer flammable items such as baby bed mattresses, throw rugs, undergarments (brassieres, etc.) and other items which use rubber as padding or backing. Rubber easily oxidizes causing excessive heat and possible fire. These items should be air dried.



WARNING: Synthetic solvent fumes from drycleaning machines create acids when drawn through the dryer. These fumes cause rusting of painted parts, pitting of bright or plated parts, and completely removes the zinc from galvanized parts, such as the tumbler basket. If drycleaning machines are in the same area as the tumbler, the tumbler's make-up air must come from a source free of solvent fumes.



WARNING: Do not operate without guards in place.



WARNING: Check the lint trap often and clean as needed but at least a minimum of once per day.



WARNING: Alterations to equipment may not be carried out without consulting with the factory and only by a qualified engineer or technician. Only **Manufacturer** parts may be used.



WARNING: Remove clothes from dryer as soon as it stops. This keeps wrinkles from setting in and reduces the possibility of spontaneous combustion.



WARNING: Be safe - shut main electrical power and gas supply off externally before attempting service.



WARNING: Never use drycleaning solvents, gasoline, kerosene, or other flammable liquids in the dryer. ***FIRE AND EXPLOSION WILL OCCUR. NEVER PUT FABRICS TREATED WITH THESE LIQUIDS INTO THE DRYER. NEVER USE THESE LIQUIDS NEAR THE DRYER..***



WARNING: Do not place items exposed to cooking oils in your dryer. Items contaminated with cooking oils may contribute to a chemical reaction that could cause a load to catch fire.



WARNING: Never let children play near or operate the dryer. Serious injury could occur if a child should crawl inside and the dryer is turned on.



WARNING: Never tumble fiberglass materials in the dryer unless the labels say they are machine dryable. Glass fibers break and can remain in the dryer. These fibers cause skin irritation if they become mixed with other fabrics.



WARNING: Before operating gas ignition system - purge air from natural gas or propane gas lines per manufacturer's instructions.



WARNING: To reduce the risk of electric shock, disconnect this appliance from the power supply before attempting any user maintenance other than cleaning the lint trap. Turning the controls to the OFF position does not disconnect this appliance from the power supply.

**ATTENTION: L'ACHETEUR DOIT PLACER L'AVERTISSEMENT
SUIVANT DANS UN ENDROIT CLAIR ET VISIBLE:**

AVERTISSEMENT. Assurez-vous de bien suivre les instructions donnees dans cette notice pour reduire au minimum le risque d'incendie ou d'explosion ou pour eviter tout dommage materiel, toute blessure ou la mort.

— Ne pas entreposer ni utiliser d'essence ni d'autres vapeurs ou liquides inflammables dans le voisinage de cet appareil ou de tout autre appareil.

— **QUE FAIRE SI VOUS SENTEZ UNE
ODEUR DE GAZ:**

- Ne pas tenter d'allumer d'appareil.
- Ne touchez a aucun interrupteur. Ne pas vous servir des telephones se trouvant dans le batiment ou vous vous trouvez.
- Evacuez la piece, le batiment ou la zone.
- Appelez immediatement votre fournisseur de gaz depuis un voisin. Suivez les instructions du fournisseur.
- Si vous ne pouvez rejoindre le fournisseur de gaz, appelez le service des incendies.

— l'installation et l'entretien doivent etre assures par un installateur ou un service d'entretien qualifie ou par le fournisseur de gaz.

**ATTENTION: L'ACHETEUR DOIT PLACER L'AVERTISSEMENT
SUIVANT DANS UN ENDROIT CLAIR ET VISIBLE:**

POUR VOTRE SECURITE

Ne pas entreposer ni utiliser d'essence ni d'autres vapeurs ou liquides inflammables dans le voisinage de cet appareil ou de tout autre appareil.

CISSELL DRYER WARRANTY

The Cissell Manufacturing Company (Cissell) warrants all new equipment (and the original parts thereof) to be free from defects in material or workmanship for a period of three (3) years from the date of sale thereof to an original purchaser for use, except as hereinafter provided. With respect to non-durable parts normally requiring replacement in less than three (3) years due to normal wear and tear, and with respect to all new repair or replacement parts for Cissell equipment for which the three (3) year warranty period has expired, or for all new repair or replacement parts for equipment other than Cissell equipment, the warranty period is limited to ninety (90) days from date of sale. The warranty period on each new replacement part furnished by Cissell in fulfillment of the warranty on new equipment or parts shall be for the unexpired portion of the original warranty period on the part replaced.

With respect to electric motors, coin meters and other accessories furnished with the new equipment, but not manufactured by Cissell, the warranty is limited to that provided by the respective manufacturer.

Cissell's total liability arising out of the manufacture and sale of new equipment and parts, whether under the warranty or caused by Cissell's negligence or otherwise, shall be limited to Cissell repairing or replacing, at its option, any defective equipment or part returned f.o.b. Cissell's factory, transportation prepaid, within the applicable warranty period and found by Cissell to have been defective, and in no event shall Cissell be liable for damages of any kind, whether for any injury to persons or property or for any special or consequential damages. The liability of Cissell does not include furnishing (or paying for) any labor such as that required to service, remove or install; to diagnose troubles; to adjust, remove or replace defective equipment or a part; nor does it include any responsibility for transportation expense which is involved therein.

The warranty of Cissell is contingent upon installation and use of its equipment under normal operating conditions. The warranty is void on equipment or parts; that have been subjected to misuse, accident, or negligent damage; operated under loads, pressures, speeds, electrical connections, plumbing, or conditions other than those specified by Cissell; operated or repaired with other than genuine Cissell replacement parts; damaged by fire, flood, vandalism, or such other causes beyond the control of Cissell; altered or repaired in any way that effects the reliability or detracts from its performance, or; which have had the identification plate, or serial number, altered, defaced, or removed.

No defective equipment or part may be returned to Cissell for repair or replacement without prior written authorization from Cissell. Charges for unauthorized repairs will not be accepted or paid by Cissell.

CISSELL MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY, STATUTORY OR OTHERWISE, CONCERNING THE EQUIPMENT OR PARTS INCLUDING, WITHOUT LIMITATION, A WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, OR A WARRANTY OF MERCHANTABILITY. THE WARRANTIES GIVEN ABOVE ARE EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. CISSELL NEITHER ASSUMES, NOR AUTHORIZES ANY PERSON TO ASSUME FOR IT, ANY OTHER WARRANTY OR LIABILITY IN CONNECTION WITH THE MANUFACTURE, USE OR SALE OF ITS EQUIPMENT OR PARTS.

For warranty service, contact the Distributor from whom the Cissell equipment or part was purchased. If the Distributor cannot be reached, contact Cissell.

IDENTIFICATION NAMEPLATE

The Identification Nameplate is located on the rear wall of the dryer. It contains the dryer serial number, product number, model number, electrical specifications and other important data that may be needed when servicing and ordering parts, wiring diagrams, etc. Do not remove this nameplate.





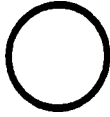


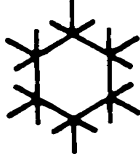
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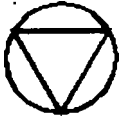

SYMBOLS

The following symbols are used in this manual and/or on the machine. The numbers between () refer to the numbers on the machine surveys.

Symbol	Description	Part/Measurement
	NOTE!	
	Hot! Do Not Touch Heiß! Nicht Berühren Haute temperature! Ne pas toucher Caliente! no tocar Heet! Niet Aanraken	
	dangerous voltage tension dangereuse Gefährliche elektrische Spannung tension peligrosa	
	on marche Ein conectado	
	off arrêt Aus desconectado	
	start demarrage Start arranque de un movimiento	
	emission of heat in general émission de chaleur en general Warmeabgabe allgemein emisión de calor	
	cooling refroidissement Kühlen enfriamiento	

SYMBOLS

The following symbols are used in this manual and/or on the machine.

Symbol	Description
	rotation in two directions rotation dans les deux sens Drehbewegung in zwei Richtungen movimiento rotativo en los dos sentidos
	direction of rotation sens de mouvement continu de rotation Drehbewegung in Pfeilrichtung movimiento giratorio o rotatorio en el sentido de la flecha
	End of Cycle
	caution attention Achtung atencion; precaucion

Unpacking/General Installation (All Dryers)

UNPACKING

This dryer is packed in a large (heavy-duty) protective wooden crate.

Upon arrival of the equipment, any damage in shipment should be reported to the carrier immediately.

Upon determining permanent location of a unit, care should be taken in movement and placement of equipment. To move dryer through door ways, you may need to remove the top of the machine. Follow instructions for disassembling.

See outline clearance diagrams for correct dimensions.

Remove all packing material such as: tape, manuals, skid, etc.

Check voltage and amperes on rating plate before installing the dryer.

GENERAL INSTALLATION (ALL DRYERS)

IMPORTANT

Before installing or operating this dryer, thoroughly read the owner's manual for correct instructions concerning electric connections, exhaust ducting, gas piping, steam connections, make-up air, etc.

IMPORTANT

Read the warnings in this manual.

IMPORTANT

Do not install this dryer in an area where it will be exposed to water and/or weather.

IMPORTANT

Failure to follow these instructions and warnings may create a safety hazard and may affect the warranty.

IMPORTANT

Follow all local codes.

IMPORTANT

If you have any installation questions, consult the factory Service Department.

General Installation (All Dryers)

GENERAL INSTALLATION (ALL DRYERS)

Position dryer for the least amount of exhaust piping and elbows, and allow free access to the rear of dryer for future servicing of belts, pulleys and motors. Installation clearance from all combustable material for gas dryers is 0" ceiling clearance, 24" rear clearance, and 0" side clearance. Installation clearance from all combustable material for steam dryers is 0" ceiling clearance, 24" rear clearance, and 0" side clearance.

Before operating dryer, open basket door and remove blocking between front panel and basket. Read the instruction tags, owner's manual, warnings, etc.

GENERAL

The dryer is so designed that when an operator opens the dryer door, the basket and exhaust fan stop. Hot, dry air is properly and effectively moved through the basket and exhausted through a lint trap to the venting and eventually to the atmosphere. The lint accumulates in the collector and should be removed as needed, minimum once daily.

IMPORTANT

IMPORTANT

Provide adequate clearance for air openings into the combustion chamber.

REPLACEMENT PARTS

Replacement parts for this dryer are available from your distributor or by contacting the factory at the address or phone number printed on the cover of this manual.



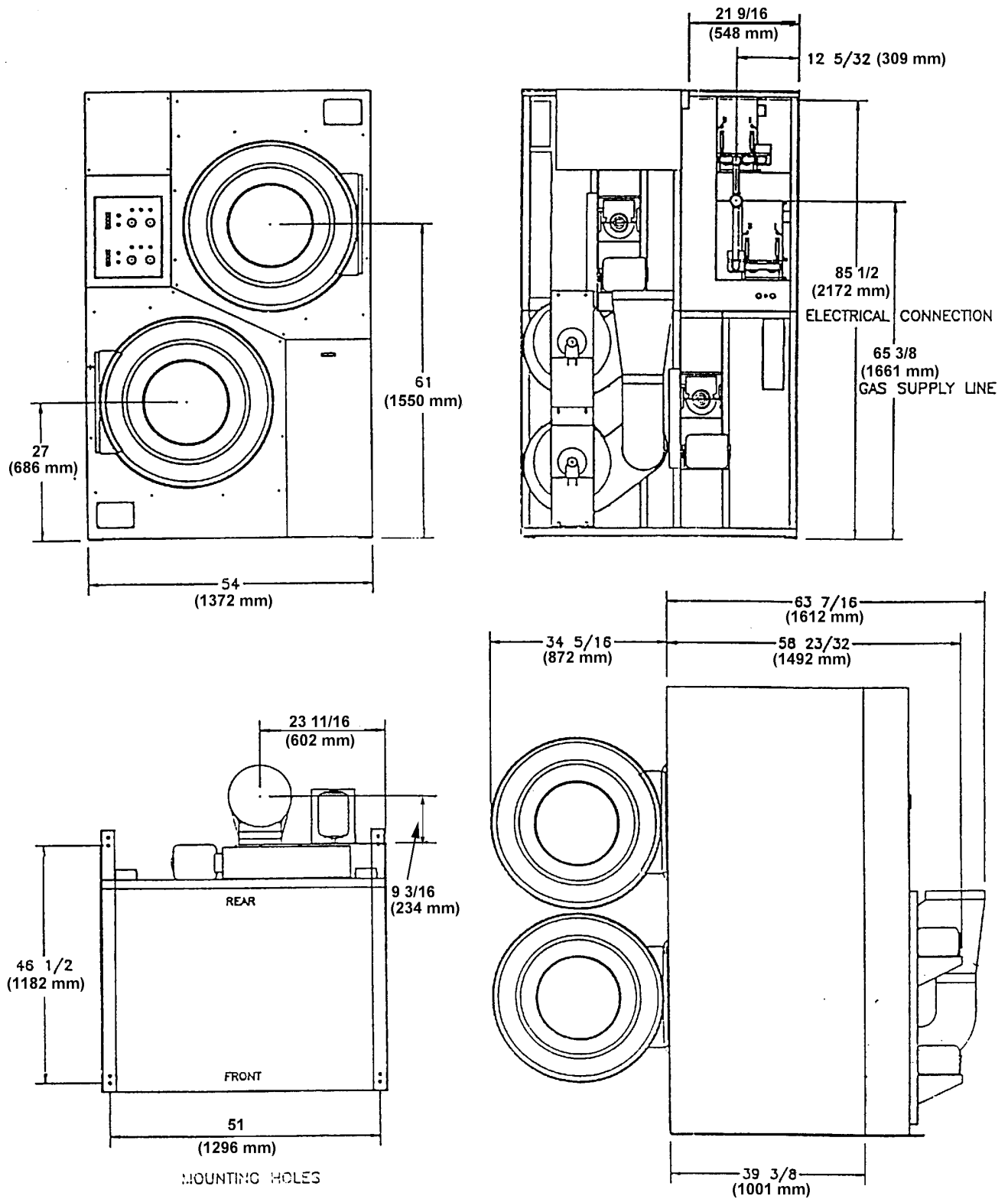
WARNING Unit is heavy!



NOTE

The gas installation must conform with local codes or, in the absence of local codes, with the *National Fuel Gas Code, ANSI Z223.1* or the *CAN/CGA-B149, Installation Codes*.

75 lb. STACK DRYER Outline Dimensions



General Specifications

GENERAL SPECIFICATIONS FOR 75lb. STACK LAUNDRY DRYERS

Basket Load cket	
Floor Space	87-1/2" (2223 mm) H x 54" (1372 mm) W x 63-1/2" (1613 mm) Deep
Basket Size	36" (915 mm) Diameter x 36" Deep—21 cu. ft. (600 liter)
Exhaust Duct	12" Diameter (305 mm)
Motor Sizes	Fan—1/2 HP; Basket—1 HP
Maximum Air Displacement	2000 cfm (56.63 m ³ /min.) total (both pockets)
Recommended Operating Range	1576-1826 cfm (44.63 - 51.71 m ³ /min.) total (both pockets)
Net Weight (approx.)	1810 lbs. (821 kg.)
Domestic Shipping Weight (carton)	1960 lbs. (889 kg.)
Export Shipping Dimensions	93" L (2363 mm) x 57" W (1448 mm) x 76" H (1931 mm)
Export Crating	233 cu. ft. (6.6 m ³)
Basket RPM	Reversing—40 (3.2 reversals per minute) Non-Reversing—40
Gas Supply	3/4" Pipe Connection (26 mm)
Gas Pressure Regulator (Natural Gas)	Set at 3.5" Water Column (8.7 mbar)
BTU Input (4 burners)	360,000 Btu/hr (90,720 kcal/h) (Natural Gas) 360,000 Btu/hr (90,720 kcal/h) (LP Gases)
Electronic Ignition	Direct Spark Ignition
Drying Time (approx.)	75 lbs. (35 kg) Dryweight per pocket (Indian Head Cloth) 70% Moisture Retention— 32 minutes

GAS FIRED MODEL

Motor List DOUBLE MOTOR MODELS

Motor No.	Voltage	Hz.	Phase	Basket/Fan	HP	Amps	RPM
MTR303	200-240/460	60	3	B	1	3.2/1.6	1725
MTR303	220/380	60	3	B	1	3.2/1.6	1725
MTR301	115/200-240	50	1	B	1	9.0/4.9	1425
MTR303	200/346	50	3	B	1	3.2/1.6	1425
MTR303	220/380	50	3	B	1	3.2/1.6	1425
MTR303	240/415	50	3	B	1	3.2/1.6	1425
MTR101	575	60	3	B/F	1	1.7	1725
MTR300	115/200-240	60	1	F	1/2	6.2/3.1	1725
MTR302	200-240/460	60	3	F	1/2	1.8/0.9	1725
MTR302	220/380	60	3	F	1/2	1.8/0.9	1725
MTR300	115/200-240	50	1	F	1/2	6.2/3.1	1425
MTR302	200-220/346-380	50	3	F	1/2	1.8/0.9	1425
MTR184	240/415	50	3	F	1/3	1.6/.90	1425

General Information

GENERAL INFORMATION

The dryer is so designed that when an operator opens the dryer door, the basket stops. You can expect fast drying from a laundry dryer. Hot, dry air is properly and effectively moved through the basket and exhausted through a lint trap to the atmosphere. The dryer comes equipped with an inclined, self-cleaning lint screen. In this system, lint accumulates on the underside of the screen until a blanket approximately 1/4" (7 mm) thick is formed. This blanket of lint will fall from the screen to the bottom of the dryer cabinet and should be removed daily, or as required, to prevent an over accumulation.

ELECTRICAL CONNECTIONS

Dryers must be electrically grounded by a separate #14 or larger green wire from the **grounding** terminal within the service connection box to a cold water pipe, or through the fourth green wire properly **grounded** and connected to the **grounding terminal**. **In all cases, the grounding method must comply with local electrical code requirements; or in the absence of local codes, with the *National Electrical Code, ANSI/NFPA 70* or the *Canadian Electrical Code, CA C22.1*.**

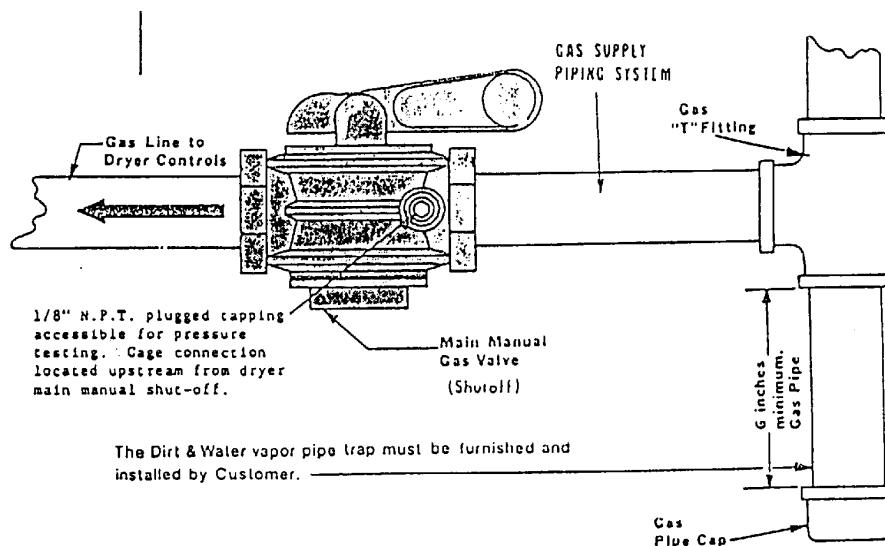
See wiring diagram furnished with dryer. Your dryer is completely wired at the factory and it is only necessary for the electrician to connect the power leads to the wire connectors within the service connection box on the rear of the dryer. **Do not change wiring without consulting factory as you may void the factory warranty. Do not connect the dryer to any voltage or current other than that specified on the dryer rating plate.** (Wiring diagram is located on rear wall of dryer.)

«Attention. Lors des opérations d'entretien des commandes, étiqueter tous les fils avant de les déconnecter. Toute erreur de câblage peut être une source de danger et de panne»

Gas Pipe Size Chart

TOTAL BTU/HR (for LP Gas correct total BTU/HR below by multiplying by .6)	TOTAL KCAL	GAS PIPE SIZE FOR 1000 BTU (250 KCAL) NATURAL GAS AT 7" W.C. (17.5 MBAR) PRESSURE					
		In figuring total length of pipe, make allowance for tees and elbows.					
	HOURLY	(25 ft.) 7,62 m	(50 ft.) 15,24 m	(75 ft.) 22,86 m	(100 ft.) 30,48 m	(125 ft.) 38,1 m	(150 ft.) 45,72 m
60,000	15000	3/4	3/4	3/4	3/4	3/4	3/4
80,000	20000	3/4	3/4	3/4	1	1	1
100,000	25200	3/4	3/4	1	1	1	1
120,000	30200	3/4	1	1	1	1	1
140,000	35200	3/4	1	1	1	1	1 1/4
160,000	40300	3/4	1	1	1 1/4	1 1/4	1 1/4
180,000	45300	1	1	1	1 1/4	1 1/4	1 1/4
200,000	50400	1	1	1 1/4	1 1/4	1 1/4	1 1/2
300,000	75600	1	1 1/4	1 1/4	1 1/2	1 1/2	1 1/2
400,000	100800	1 1/4	1 1/4	1 1/2	1 1/2	1 1/2	2
500,000	126000	1 1/4	1 1/2	1 1/2	2	2	2
600,000	151200	1 1/2	1 1/2	2	2	2	2
700,000	176400	1 1/2	2	2	2	2	2 1/2
800,000	202000	1 1/2	2	2	2	2 1/2	2 1/2
900,000	230000	2	2	2	2 1/2	2 1/2	2 1/2
1,000,000	250000	2	2	2	2 1/2	2 1/2	2 1/2
1,100,000	270000	2	2	2 1/2	2 1/2	2 1/2	2 1/2
1,200,000	300000	2	2	2 1/2	2 1/2	2 1/2	2 1/2
1,300,000	330000	2	2 1/2	2 1/2	2 1/2	2 1/2	3
1,400,000	350000	2	2 1/2	2 1/2	2 1/2	3	3
1,500,000	380000	2	2 1/2	2 1/2	2 1/2	3	3
1,600,000	400000	2	2 1/2	2 1/2	3	3	3
1,700,000	430000	2	2 1/2	2 1/2	3	3	3
1,800,000	450000	2 1/2	2 1/2	3	3	3	3
1,900,000	480000	2 1/2	2 1/2	3	3	3	3
2,000,000	504000	2 1/2	2 1/2	3	3	3	3 1/2
2,200,000	550000	2 1/2	3	3	3	3 1/2	3 1/2
2,400,000	605000	2 1/2	3	3	3	3 1/2	3 1/2
2,600,000	650000	2 1/2	3	3	3 1/2	3 1/2	3 1/2
2,800,000	705000	2 1/2	3	3	3 1/2	3 1/2	3 1/2
3,000,000	750000	2 1/2	3	3 1/2	3 1/2	3 1/2	4
3,200,000	806000	3	3	3 1/2	3 1/2	3 1/2	4
3,400,000	850000	3	3 1/2	3 1/2	3 1/2	4	4
3,600,000	907000	3	3 1/2	3 1/2	3 1/2	4	4
3,800,000	960000	3	3 1/2	3 1/2	4	4	4
4,000,000	1000000	3	3 1/2	3 1/2	4	4	4

Gas Piping Information



GAS PIPING

Check gas rating plate for type of gas to equip the dryer.

Check for altitude elevation of the dryer.

Check utility for proper installation of gas supply line and gas pressure.

NATURAL GAS ONLY

NATURAL GAS ONLY

Check the gas pressure inlet supply to dryer, 11 inches Water Column Pressure (27.4 mbar) maximum. Check the manifold pressure, 3.5 inches Water Column Pressure (8.8 mbar) (Natural Gas).

LP GAS ONLY

LP GAS ONLY

11 inches Water Column Pressure (27.4 mbar) maximum.

CAUTION: Low gas pressure and intermittent gas will cause gas ignition problems. This will cause inadequate drying of the clothes load.

The dryer and its individual shut-off valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psig (.04 bar).

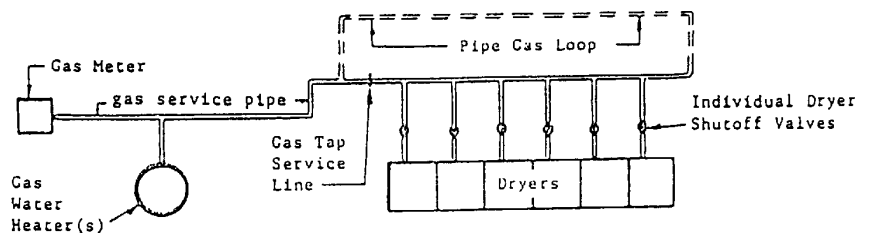
The dryer must be isolated from the gas supply piping system by closing its individual manual shut-off valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 psig (.04 bar).

**GENERAL
INSTALLATION
FOR ALL DRYERS**

The size of the gas service pipe is dependant upon many variables, such as tees, lengths, etc. Specific pipe size should be obtained from the gas supplier. Refer to the *Gas Pipe Size Chart* in this manual for general gas pipe size information.

CAUTION: Gas loop piping must be installed as illustrated to maintain equal gas pressure for all dryers connected to a single gas service.

Other gas-using appliances should be connected upstream from the loop.

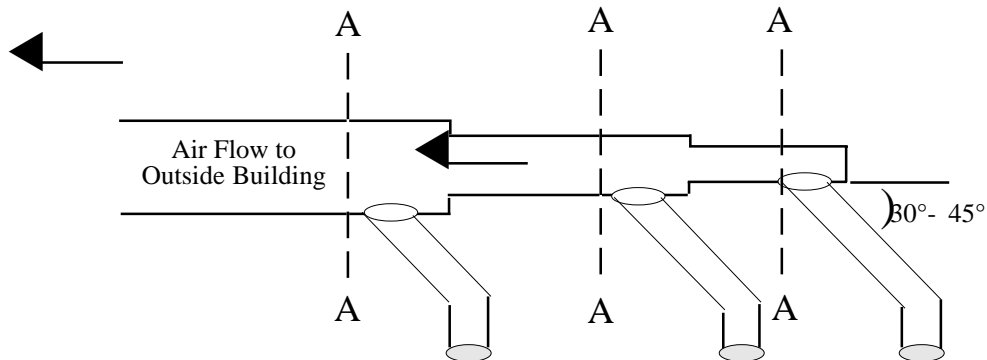


**WARNING:
LIQUIFIED PETROLEUM GASES ONLY**

A Gas Pressure Regulator for Liquified Petroleum Gases is not furnished on the gas heated clothes dryers. This regulator is normally furnished by the installer. In accordance with American Gas Association (AGA) standards, a Gas Pressure Regulator, when installed indoors, must be equipped with a vent limiter or a vent line must be installed from the Gas Pressure Regulator vent to the outdoors.

Exhaust Installation—Multiple Manifold Duct

For Exhaust Duct less than 14 feet (5 m) and 2 elbows equivalent and less than 0.3 inches (8 mm) static pressure.



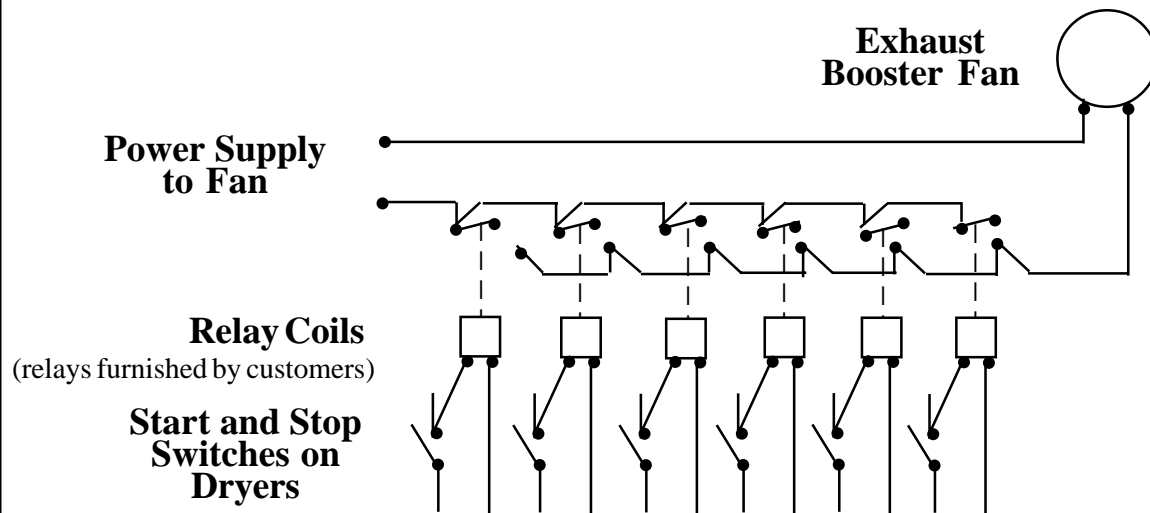
DRYER EXHAUSTS

Area of section “A-A” must be equal to the sum of dryer exhaust pipes entering multiple exhaust pipe. (See chart below.)

No. of Dryers	1	2	3	4	5	6	7	8	9	10	11	12
Duct Diameter (in inches)	12	17	21	24	27	30	32	34	36	38	40	42

AUTOMATIC ELECTRICAL CONTROL FOR EXHAUST FAN

For one or more dryers to start fan.



Exhaust Installation—Multiple Manifold Duct

EXHAUST INSTALLATION— MULTIPLE MANIFOLD DUCT

For Exhaust Duct more than 14 feet (5 m) and 2 elbows equivalent and more than 0.3 inches (8 mm) static pressure. (See illustration on next page.)

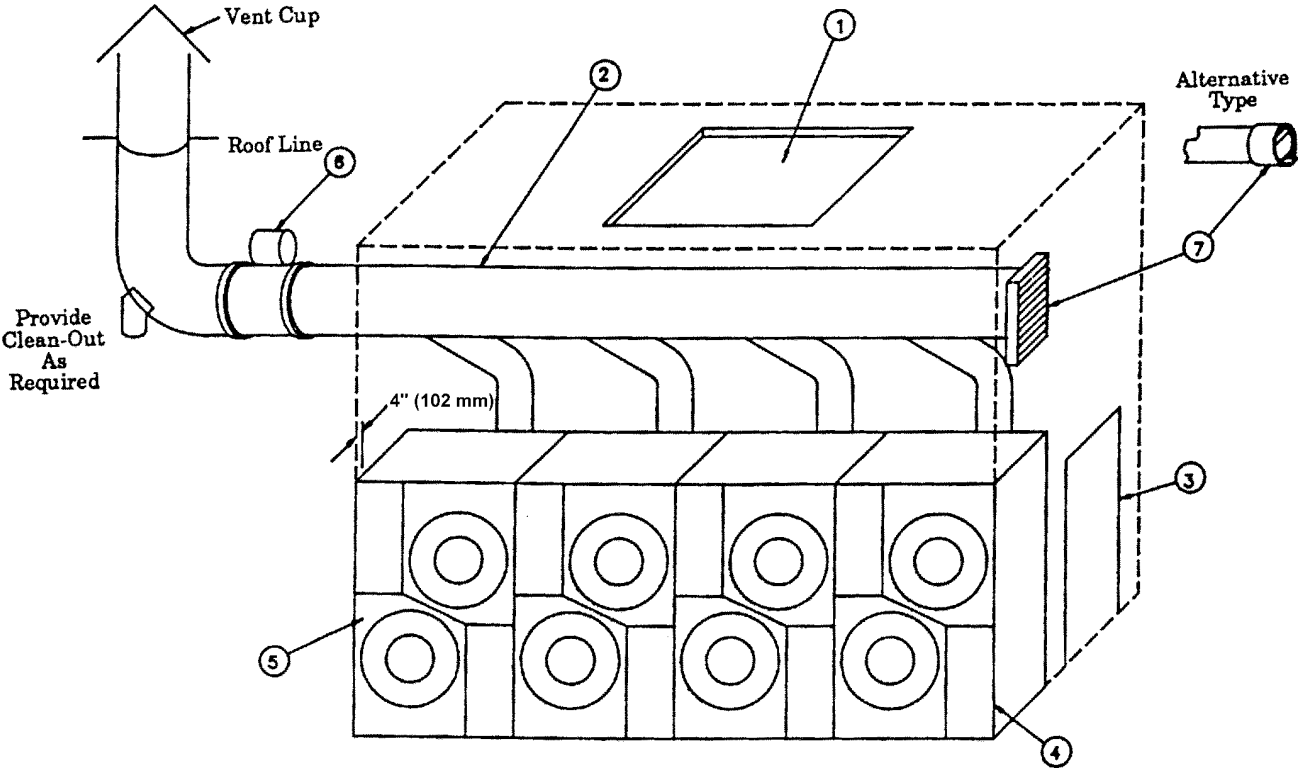
1. Make-up air from outside building may enter enclosure from top or side walls. (*See Dryer Make-Up Air Requirements Chart*)
2. Use constant diameter duct with area equal to the sum of dryer duct areas.

EXAMPLE: 3-12 inch (305 mm) diameter duct = 1-20.78 inch (528 mm) diameter duct in area. Use 21 inch (534 mm) diameter duct or diameter to match tube-axial fan.

3. Enclosure (plenum) with service door. This separates the dryer air from room comfort air.
4. Zero inches clearance to combustible material allowed on sides and at points within 4 inches (102 mm) of front on top.
5. Heat loss into laundry room from dryer fronts *only* is about 60 Btu/hr per square foot.
6. Flange mounted, belt driven tube-axial fan. **Fan must run when one or more dryers are running.** *See suggested Automatic Electrical Control Wiring Diagram on previous page.* Must meet local electrical codes. Fan air flow (cfm) is equal to sum of dryer air flows, but static pressure (SP) is dependent on length of pipe and number of elbows.
7. **Barometric Bypass Damper**—Adjust to *closed flutter position* with all dryers and exhaust fan running. **Must be located within enclosure.**

CAUTION: *Never install hot water heaters or other gas appliances in the same room as dryers. Never install cooling exhaust fans in the same room as dryers.*

Exhaust Installation—Multiple Manifold Duct (Illustration)



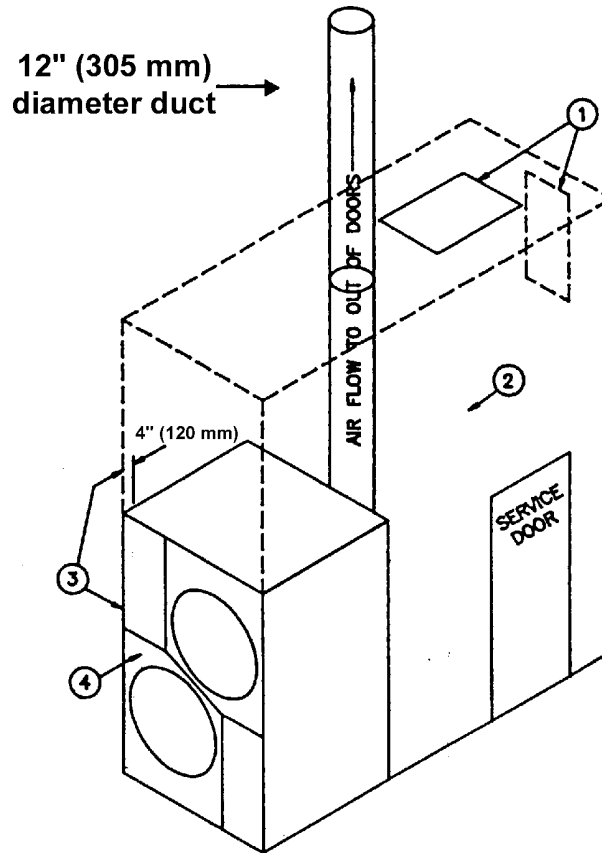
Suggested Minimum Dryer Make-up Air Requirements

Dryer Model	Dryer Pocket Capacity		Maximum Air Flow Rate per Pocket		Duct Size For Service Connection		Required Make-up Air Area per Pocket	
	lb	kg	cfm	m3/h	inch	mm	sq. inch	cm2
C 30 ST	30	13.6	450	765	6	153	87	561
C 75 ST	75	34	1000	1700	12	305	192	1240
C 110	110	50	2200	3740	12	305	422	2723
C 110 E/S	110	50	850	1445	8	203	163	1052
C 125	125	56.7	2000	3400	12	305	384	2477
C 150	150	68	2250	3825	12	305	432	2787
HD175	175	79.4	2780	4726	12	305	534	3445
HD190	190	86.2	3000	5100	12	305	576	3716
HD20.1	20	9.1	450	765	6	153	87	561
HD30SL	30	13.6	600	1020	8	203	116	748
HD30.1	30	13.6	625	1063	8	203	120	774
HD50.1	50	22.7	850	1445	8	203	164	1058
HD75.1	75	34	1000	1700	8	203	192	1240
HD80.1	80	36.3	1000	1700	10	254	192	1240

Notes:

- 1) The Model C 30 ST has 2 pockets per dryer, each pocket has the above listed characteristics; each pocket is exhausted separately with a 6" (153mm) duct.
- 2) The Model C 75 ST has 2 pockets per dryer, each pocket has the above listed characteristics; both pockets have one 8" (203mm) exhaust manifolded into one 12" (305mm) exhaust duct for exhaust connection.
- 3) For the C 30 ST and the C 75 ST Models, the Required Make-up Air Area shown in the table should be doubled since it is shown per pocket, only.

Exhaust Installation—Separate Ducts (preferred)



EXHAUST INSTALLATION— SEPARATE DUCTS (PREFERRED)

For ductwork less than 14 feet (5 m) and 2 elbows equivalent and less than 0.3 inches (8 mm) static pressure.

NEVER exhaust the dryer into a chimney.
NEVER install wire mesh screen over the exhaust or make-up air area.
NEVER exhaust into a wall, ceiling, or concealed space.

1. Make-Up Air opening from outside the building may enter the enclosure from the top or side walls. (*See Dryer Make-Up Air Requirements Chart*)
2. Enclosure (plenum) with service door. This separates the dryer air from the room comfort air.
3. Zero inches clearance to combustible material allowed on sides and at points within 4 inches (102 mm) of front on top.
4. Heat loss into laundry room from dryer front panels is about 60 Btu/hr per square foot.
5. As shown below, separate 12" (305 mm) ducts are recommended for each 75 lb. (35 kg) Stack Dryer.

Exhaust and Venting

DRYER AIR FLOW INSTALLATION

Nothing is more important than air flow for the proper operation of a clothes dryer. A dryer is a pump which draws make-up air from the out-of-doors, through the heater, through the clothes and then forces the air through the exhaust duct back to the out-of-doors. Just as in a fluid water pump, there must be a fluid air flow to the inlet of the dryer, if there is to be the proper fluid air flow out of the exhaust duct. In summary, there must be the proper size out-of-doors inlet air opening (4-6 times the combined areas of the air outlet) and an exhaust duct, size and length of which allows flow through the dryer with no more than 0.3 inches water column static pressure (8.8 mbar) in the exhaust duct. In some instances, special fans are required to supply make-up air, and/or boost exhaust fans.

EXHAUSTING DUCT

FOR BEST DRYING:

1. Exhaust duct maximum length 14 feet (5 m) of straight duct and maximum of two 90° bends.
2. Use 45° and 30° elbows wherever possible.
3. **Exhaust each 75 lb. Stack Dryer separately.**
4. **Do not** install wire mesh or other restrictions in the exhaust duct.
5. Use clean-outs in the exhaust duct and clean periodically when needed.
6. **Never** exceed 0.3 inches water column static pressure (8.8 mbar) in the exhaust duct.
7. Inside surface of the duct **must be smooth.**
8. Recommend pop rivets for duct assembly.
9. Round ducting recommended.

FOR BEST DRYING:

1. Provide opening to the out-of-doors in accordance with the following:
Each 75 lb. Stack Dryer requires 4 square feet (.4 m²) of make-up air.
2. Use barometric shutters in the inlet air opening to control air when dryers are not running.

MAKE-UP AIR

Other Recommendations

To assure compliance, consult local building code requirements.

Troubleshooting

Hot dryer surfaces, scorched clothes, slow drying, lint accumulations, or air switch malfunction are indicators of exhaust duct and/or make-up air problems.

Rules for Safe Operation of Dryer

RULES FOR SAFE OPERATION OF DRYER

1. **Be sure** your dryer is installed properly in accordance with the recommended instructions.
2. **CAUTION**
Be safe—**shut main electrical power supply and gas supply off externally before attempting service.**
3. **CAUTION**
Never use drycleaning solvents: gasoline, kerosene, or other flammable liquids **in the dryer.** ***Fire and explosion will occur.***
Never put fabrics treated with these liquids into the dryer.
Never use these liquids near the dryer.
Always keep the lint screen clean.
Never use heat to dry items that contain plastic, foam or sponge rubber, or rags coated with oils, waxes or paints. The **heat may** damage the material or **create a fire hazard. Rubber easily oxidizes, causing excessive heat and possible fire.**
Never dry the above items in the dryer.
4. **Never let children play near or operate the dryer. Serious injury will occur if a child should crawl inside and the dryer is turned on.**
5. **Never** use dryer door opening and top as a step stool.
6. **Read** and follow manufacturer's instructions on packages of laundry and cleaning aids. Heed any **warnings** or **precautions.**
7. **Never** tumble fiberglass materials in the dryer unless the labels say they are machine dryable. Glass fibers break and can remain in the dryer and could cause skin irritation if they become mixed into other fabrics.
8. **The dryer must not be installed or stored in an area where it will be exposed to water and/or weather.**

ENERGY-SAVING TIPS

1. Install dryer so that you can use short, straight venting. Turned elbows and long vent tubing tend to increase drying time. Longer drying time means the use of more energy and higher operating costs.
2. Operate dryer using full-size loads. Very large loads use extra energy. Very small loads waste energy.
3. Dry light-weight fabrics separately from heavy fabrics. You will use less energy and get more even drying results by drying fabrics of similar weight together.
4. Clean the lint screen area daily. A clean lint screen helps give faster, more economical drying.
5. Do not open the dryer door while drying, you let warm air escape from the dryer into the room.
6. Unload your dryer as soon as it stops. This saves having to re-start your dryer to remove wrinkles.

**OPERATING
INSTRUCTIONS—
TWO TIMER MODEL**

OPERATING INSTRUCTIONS—TWO TIMER MODEL

1. After loading the dryer with water washed clothes, close the loading door.
2. Turn the 60 minute drying (heat) timer to the desired time. The drying cycle light will be on.
3. Turn the 15 minute cooling (air) to the desired time. The cooling light will come on after the drying finishes.
4. Select the temperature desired:

HIGH—185° (85° C) exhaust temperature, *heavy fabrics and hard to dry, (cottons and linens).*

MEDIUM—150° (66° C) exhaust temperature, *permanent press, synthetic blends.*

LOW—135° (58° C) exhaust temperature, *delicate, sheer fabrics.*
5. Turn “**on/off**” toggle switch to “**on**” and press the “**push to start**” button to start the drying and cooling cycles.
6. To shut the dryer off at any time during the cycles, switch the “**on/off**” switch to “**off**”.

Service Savers

TROUBLESHOOTING

To help you troubleshoot the dryer, we list below the most common reasons for service calls and some answers to the problems. **Before you call service**, please review the following items:

DRYER WON'T START

DRYER WON'T START

1. Is the door completely closed?
2. Are the controls set to the “**on**” position?
3. Did you push the “**start**” control?
4. Check for low voltage.

DRYER WON'T HEAT

DRYER WON'T HEAT

1. Is the dryer set for “**cooling time**” rather than “**drying time**”?
2. Are the gas valve in the dryer and the valve on the main gas line turned on?
3. Is the spark unit sparking?
4. Check for low or intermittent **gas pressure**.

CLOTHES ARE NOT SATISFACTORILY DRY

CLOTHES ARE NOT SATISFACTORILY DRY

1. *Timed cycle*—Did you allow enough heating time before the cool-down part of the cycle?
2. Is the lint screen blocked?
3. Is the exhaust duct to the outside clean and not blocked? (*A blocked exhaust will cause slow drying and other problems.*)

GAS DRYER IGNITION

GAS DRYER IGNITION

Refer to the page on “*Instructions for the Direct Ignition System Operation*”. Check to see if the manual gas valve is open. Then reset the dryer controls. **All panels, covers, and doors must be in place and closed before starting the dryer.**

VERY IMPORTANT

When calling the factory for service, always refer to the model number and serial number.

TROUBLESHOOTING

CAUTION

To avoid electrical shock, shut off electrical supply before servicing machine.

WARNING

To avoid burns, avoid contact with gas flames in the machine's heating unit. On gas-fired dryers, shut off gas supply.

CAUTION

Be careful of moving mechanical parts such as gears, pulleys, etc. while servicing dryer. Keep fingers and loose articles of clothing free from moving mechanical parts to avoid injury.

IMPORTANT

Refer to *Parts Sheets* for correct replacement parts.

Troubleshooting Chart

Troubleshooting Chart

TROUBLE	CAUSE	REMEDY
Motors will not start.	No power.	Check fuses or circuit breakers. Main switch must be on.
	Incorrect power.	Check power source. Voltage, phase, and frequency must match rating plate on rear of dryer.
	Low voltage.	Set timer on control panel.
	Timer off.	Check connections in junction box on rear of dryer.
	Loose wire connection.	Check coils and contacts.
	Start relay defective.	Check voltage at motor terminals. Voltage must be within 10% (plus or minus) of voltage on rating plate. If not, consult local power company for corrective measures.
Motor tripping on thermal overload.	Low voltage.	Check if wire is correctly sized for load. Check connections and correct if bad.
	Inadequate wiring.	Check installation for recommended make-up air.
	Loose wire connections.	Clean lint accumulation around and on motor.
	Inadequate air.	Close door after dryer is loaded with clothes. Adjust switch by removing cover and bending the actuator lever to clear switch button 3/8" with cover in place.
	Poor housekeeping.	
Basket motor will not run.	Loading door open.	Replace door switch.
	Door switch out of adjustment.	Replace contactor.
	Defective door switch.	Replace V-Belt.
	Bad basket motor contactor.	Adjust belt tension.
Basket motor runs, but basket will not revolve.	V-Belt broken.	Tighten set screw(s).
	V-Belt loose.	Lessen load.
	Motor pulley loose.	Level per instructions on separate page of this manual.
	Basket over-loaded.	Accidental damage to fan blades can change dynamic balance. Replace damaged fan.
Dryer noisy or vibrating.	Not leveled.	Adjust basket clearance.
	Fan out of balance.	Align sheaves and tighten set screws.
	Basket rubbing.	Adjust belt tension.
	V-Belt sheaves.	Occasionally screws, nails, etc., may hang in the basket perforations and drag against the sweep sheets surrounding the basket. Remove such objects immediately.
	Belt.	
	Foreign objects inside dryer.	

Troubleshooting Chart

Troubleshooting Chart

TROUBLE	CAUSE	REMEDY
Dryer runs, but no heat.	Incorrect voltage.	Check for correct control voltage - 120V.
	No voltage.	Check power supply, check secondary voltage on transformer and check wiring and wiring diagram.
	Direct spark ignition module defective.	Replace direct spark ignition module.
	Defective gas valve.	Replace coil assembly.
	Gas turned off.	Turn manual gas valve on.
	Defective door switch.	Replace door switch.
	Air switch not operating.	Clean out lint compartment daily. Check back draft damper for foreign objects, lint accumulation or other causes that may prevent damper from opening. Check duct work for lint build-up. Check installation sheet to insure that duct work and make-up air openings are adequately sized. Check exhaust outlet. If a screen has been improperly installed on the outlet, it may be clogged with lint or frozen over in winter. NEVER install a screen on the exhaust outlet. Vacuum within dryer drops to .09 inches of water column, or less, for normal operation of dryer. Vacuum reading (in inches of water) should range between .15 and .3 inches. Vacuum reading can be made with a vacuum U-gauge by removing a sheet metal screw in the front panel of dryer and inserting the rubber tube of the vacuum gauge into screw opening.
	Air switch out of adjustment.	See air switch adjustment sheet.
	Air switch defective.	Replace air switch.
	Gas pressure too low.	Check manifold pressure and adjust to pressure specified on rating plate. If this pressure cannot be obtained, have gas supplier check main pressure.
	Improper orifice.	Orifices have been sized for type of gas specified on rating plate. Check with gas supplier to determine specifications for gas being used. If different from rating plate, contact factory and obtain proper orifices.
	Electric power to heating unit turned off.	Turn power on.
	Line fuse or heater circuit fuse blown to unit.	Replace fuse.
	Defective relay.	Replace relay.
	Defective electric elements.	Replace elements.
	Defective thermostat.	Replace thermostat.
	Defective safety overload thermostat.	Replace thermostat.

Troubleshooting Chart

Troubleshooting Chart

TROUBLE	CAUSE	REMEDY
Main burners burning improperly.	Burner holes clogged.	Clean burner holes; blow out dirt.
	Gas pressure too high.	Adjust per rating plate specification.
	Orifice too large.	Check with factory for correct orifices.
	Restricted or blocked exhaust.	Clean exhaust of lint or restrictions.
Low or high gas flame.	Incorrect burner orifices.	Check with factory for correct orifice size. Replace if needed.
Dryer too hot.	Inadequate air flow.	Clean air ducts. Clean air make-up restrictions. Clean burners and remove lint.
Dryer doesn't stop properly. Basket does not reverse.	Incorrect burner orifices.	Check with factory for correct size, replace if needed.
	Inadequate make-up air flow.	Check air flow installation per instructions in the Instruction Manual.
	Lint accumulation.	Clean dryer of lint.
	Exhaust duct damper.	Must fully open or replace.
	Gas pressure too high.	Adjust per rating plate specification.
	Exhaust system restricted or inadequate sized ductwork.	Clean exhaust system; check installation instructions for duct size recommendations.
	Thermostat defective.	Replace thermostat.
Basket does not reverse.	Timer defective.	Replace timer.
	Reversing timer.	Check timer; replace if defective.

Direct-Spark Ignition Operation

DIRECT SPARK IGNITION OPERATION

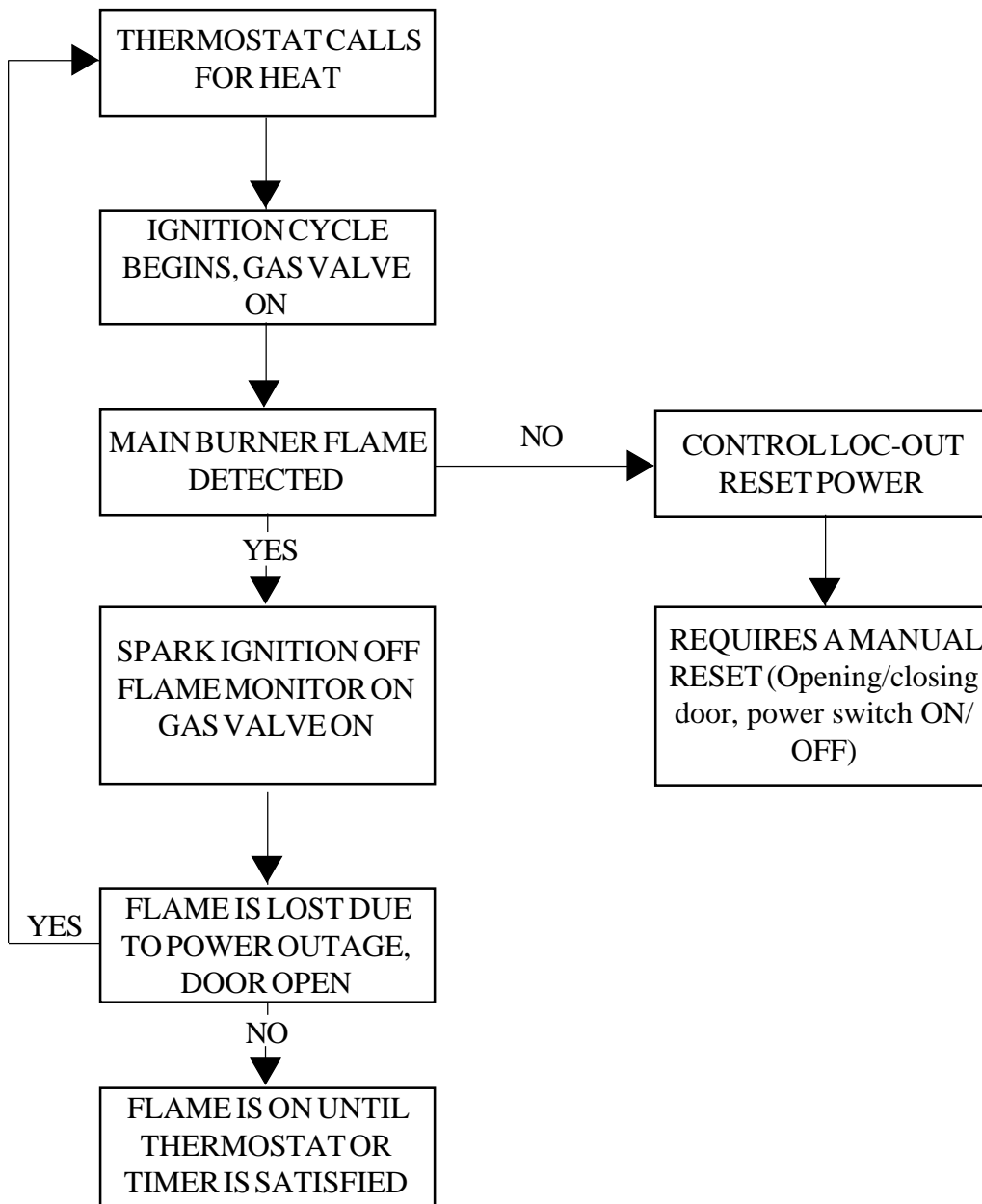
NOTE: All HD dryers manufactured by are equipped with the DSI (Direct Spark Ignition) modules. These are designed to increase dryer efficiency and to reduce dryer operating costs. The main burner is directly ignited from a spark electrode. A burning flame provides an electrical path for a small amount of sensing current to allow gas valve operation. If the main burner flame extinguishes for any reason (aside from the thermostatic control) sensing current will shut down the gas valve and the spark ignition circuit.

1. Once flame is established, the spark shuts off, and the main burner flame is then electronically monitored by means of a sensing spark probe which is located over the burner. The gas valve remains energized (open).
2. If no flame is detected within the first 11 seconds the DSI will go into a safety "lock-out". The gas valve is energized.
3. If recovery from a safety lockout requires one of the following:
 - A. Opening the main door thus interrupting power to the DSI module and allowing dryer diagnostic trouble shooting.
 - B. Disconnecting the entire dryer from a power source using a circuit breaker or a switch.
4. By closing the main door the ignition circuit will be restored for another trial of the ignition circuit.
5. Once the thermostatic control has been satisfied by reaching a pre-set temperature or the drying timer has been timed out, the ignition circuit will be de-energized thus extinguishing the flames.
6. The dryer will continue to run in a cool-down mode without heat. This process will cool the load to the touch and help to eliminate wrinkling.
7. The cool - down time is pre-set on some models and manually set on other dryer models. The cool-down cycle prevents fabric wrinkles by allowing clothes to reach room ambient temperature while still in a continuous levitation state until clothes are ready to be folded or pressed.

***DIRECT SPARK IGNITION
OPERATION FLOW CHART***

The DSI module is powered by a 24 volt AC supplied by a step-down transformer in series with eight safety interlocks:

- A. Timer Switching Device (1)
- B. Main Door and Lint Door Switches (2)
- C. Sail Switch (1)
- D. Under Basket and Burner Housing Thermal Safety Switches (2)
- E. Variable Thermostat (1)
- F. Push to Start Switch (1)



General Maintenance

GENERAL MAINTENANCE

1. **Clean lint trap daily.** Remove lint before or after each day of operation. A clean lint trap will increase the efficiency of the dryer and the moisture-laden air will be exhausted outside more quickly.
2. **Keep basket and sweep sheets clean.** Clean as often as needed. The basket and sweep sheets are accessible by removing the front panel of the dryer.
3. **Gas burners.** Check and clean often.
4. **Pulleys and belts.** Keep clean as oil and dirt will shorten the life of a belt. Check periodically for alignment. Pulley shafts must be parallel and the grooves must be aligned. Check belt tension periodically. Adjust tension by movement of idler bracket. Lubricate idler pulley once every two months using six grams of high temperature grease. Do not over-grease.
5. **Electric motor.** Keep motor clean and dry. Motors are packed with sufficient grease for 10 years normal service. After that, bearings and housing should be cleaned and repacked one third full with Chevron Grease No. SR1-2. See label on motor for further information.
6. **Adjustable leveling bolts.** One at each corner permits accurate alignment of dryer.

To adjust: Block one corner of dryer up off the floor, loosen hex nut. With wrench, turn bolt clockwise to raise dryer, opposite to lower. Rear bolts are outside of dryer and front bolts are inside lint trap compartment and behind lower left 5 x 7 panel.
7. **Periodically clean** and examine exhaust system.
8. **Keep dryer area clean** and free of gasoline, combustible materials and other flammable liquids or vapors.
9. **Do not obstruct the flow** of combustion (make-up) air and ventilating air.
10. **Check gas pressure** periodically.
11. **Gear reducer.** Maintain oil level at half the depth of oil cup. Change oil every six months.

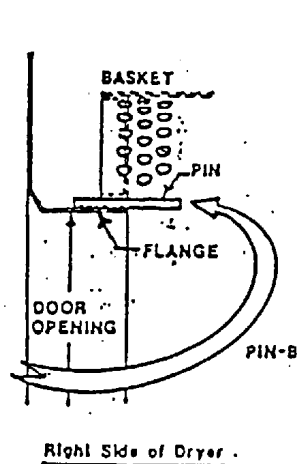
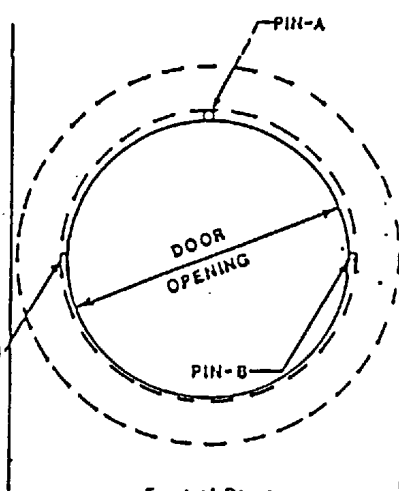


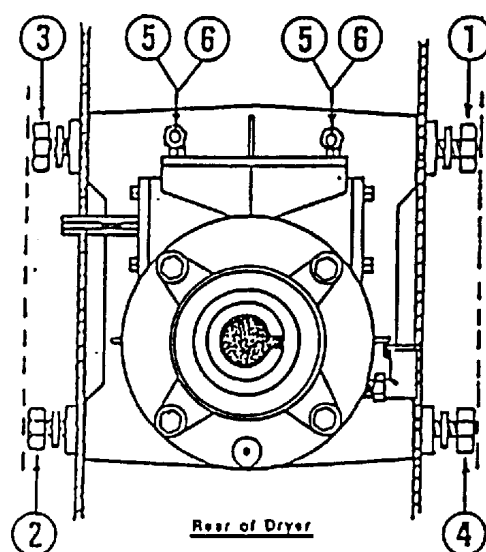
Fig. 1



Front of Dryer

PIN-A-5/8" (16 mm) DIA.
PIN-B-5/16" (8 mm) DIA.

Fig. 2



Rear of Dryer

Fig. 3

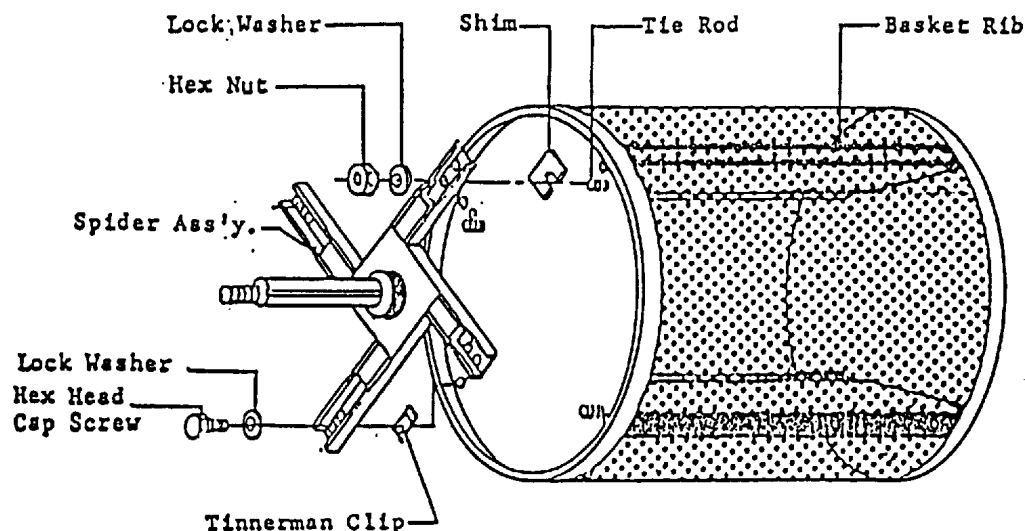
BASKET ALIGNMENT— DOUBLE MOTOR MODEL

1. Loosen the 4 gear reducer mounting bolts (1, 2, 3 and 4) on rear of dryer, and 2 adjusting bolts #5, on gear reducer housing. (Figure 3)
2. Place one "A" and two "B" diameter pins inside the drying compartment between the rim of the basket opening and the rim of the door opening in the positions shown in Figure 1 and Figure 2. Check the two "B" pins for equal clearance.
3. With the pins in positions, tighten the two #5 bolts until flush against back of dryer. Re-tighten gear reducer mounting bolts in the numerical order indicated in Figure 3. Tighten lock nuts #6 to secure bolts #5 in position. Then remove pins.
4. Check the space between basket and door opening at "A" pin and "B" pin positions (Figure 2). If the gap is not approximately the same on both sides, repeat steps 1, 2, and 3.

NOTE

Use short sections of round steel rod for pins or drill bits may be used in place of round rod.

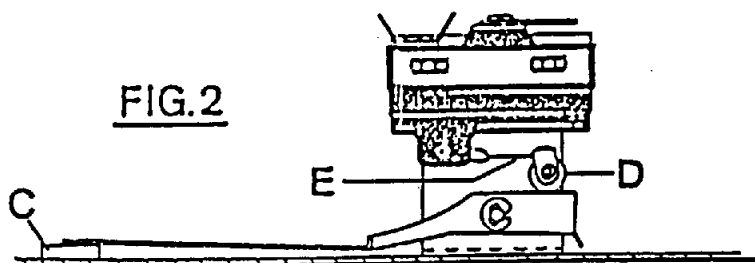
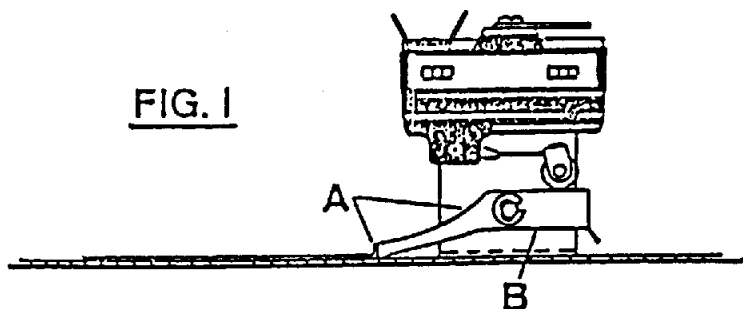
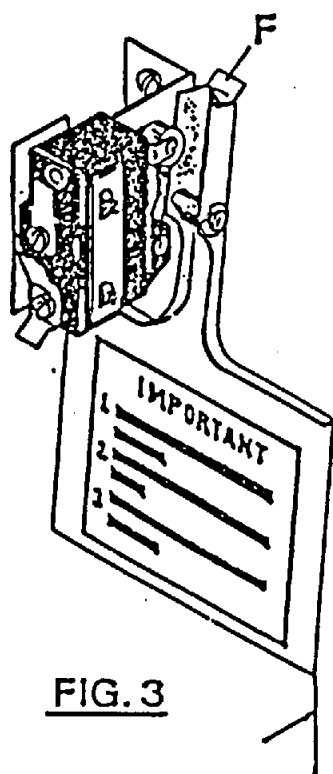
Shimming the Basket and Spider Assembly



SHIMMING THE BASKET AND SPIDER ASSEMBLY

This procedure is normally necessary when replacing either the basket or the spider assembly on any dryer tumbler. The alignment of these two parts are crucial in assuring a true running basket.

1. Align the basket as per instructions in manual.
2. Rotate the basket to determine where the most out of round point is (where the basket scraped or comes closest to scraping the sweep sheet).
3. Mark this position and the nearest rib to this position.
4. Remove the basket (do not loosen the alignment bolts).
5. With the basket on the floor (spider up), place one or two shims between the spider led and the back of the basket at the marked rib position. (see drawing)
6. Re-insert spider and basket assembly and re-check cylinder.
7. If at this point the basket is still out of round, procedure must be repeated starting with Step 2.
8. Upon completion of shimming process, re-alignment of basket is necessary.



AIRSWITCH ADJUSTMENT

1. Shut off current; disconnect leads and remove air switch.
2. Lay air switch assembly on flat surface. Adjust air blade at "A" (Figure 1) so that air blade lies flat and surface "B" is parallel to the flat surface.
3. Place 3/8" (10 mm) x 5/8" (16 mm) spacer bar or equivalent "C" (Figure 2) under air blade in position shown; hold switch mounting bracket firmly and adjust switch actuator "D" with needle-nose pliers at "E" by twisting actuator right or left whichever is needed so that switch closes when end of air blade engages bar "C".
4. Maximum opening of air switch must be no greater than 3/4" (20 mm) (Figure 3). Bend tab "F" in or out to maintain this dimension.
5. Re-install air switch assembly on rear of dryer.
6. Re-check operation of air blade. Switch must close before air blade engages face of opening and re-open before stop "F" engages.

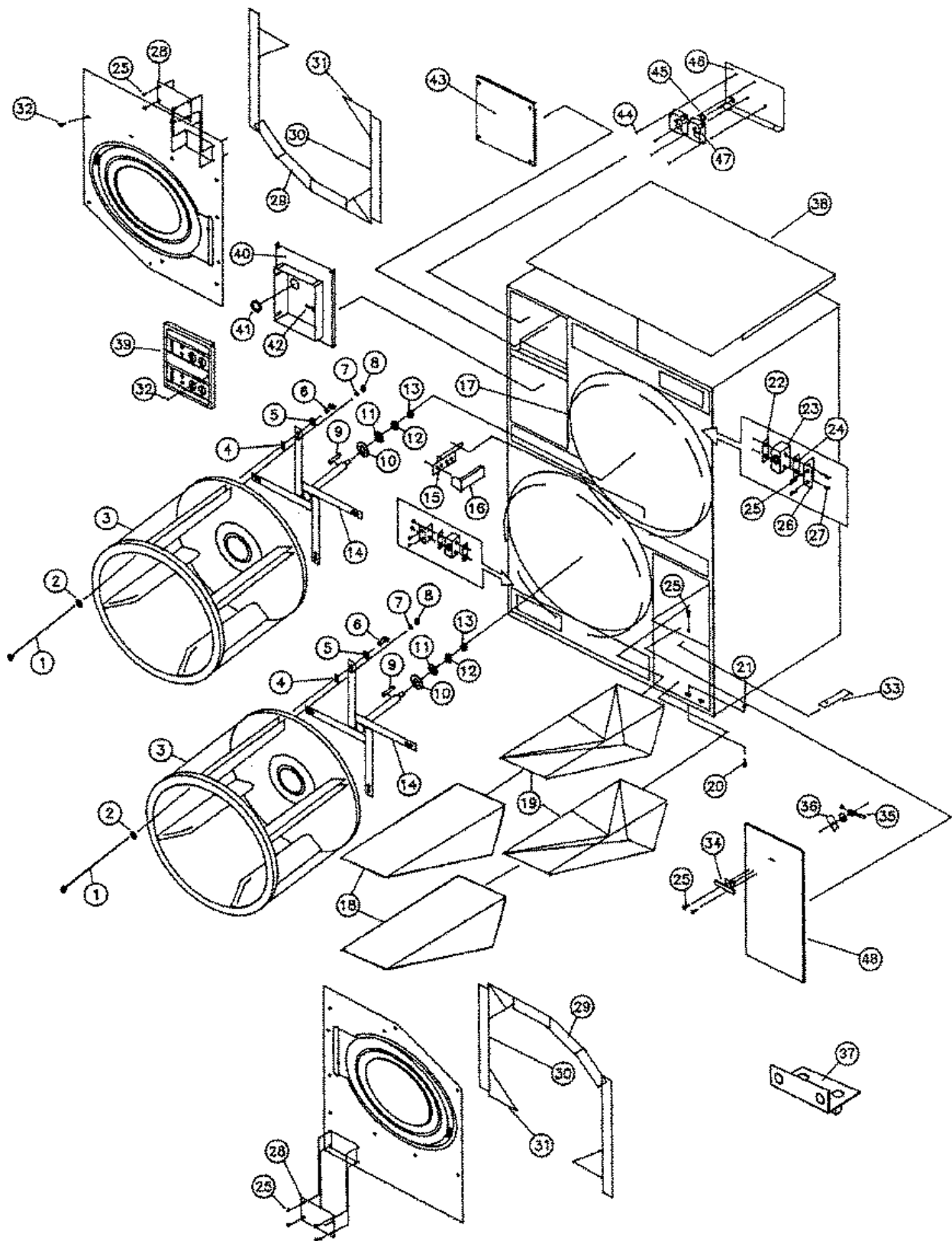
Fan Rotation

FANROTATION

NOTE

Fan rotates counter-clockwise as viewed from back end of motor. See arrow on motor support. To change rotation, reverse power leads L1 and L2.

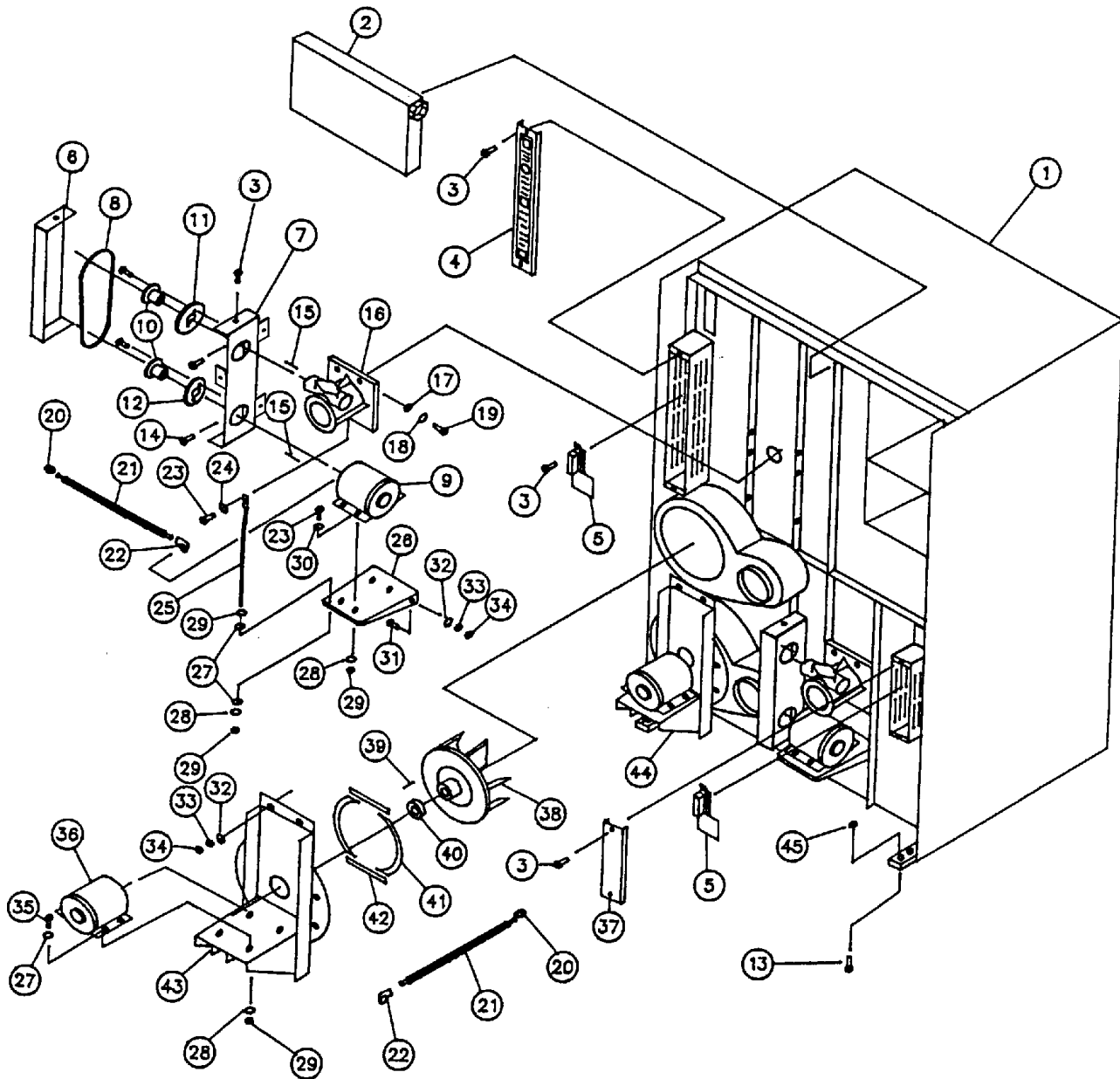
Illustration (Front View of Dryer)



Parts (Front of Dryer)

1.	TU829F	Tie Rod	29.	TU8108	Insulation 2-1/4 x 9 1/2 2
2.	TU2833	1/2" Cut Washer			MIL ALUM
3.	TU8293	Basket	30.	TU8107	Insulation 2-1/4 x 32 2
4.	TU8365	Tinnermon Nut			MIL ALUM
5.	TU2814	5/16" Lockwasher	31.	TU7735	Insulation Front Panel
6.	TU3210	5/16" - 18 x 5/8" Hex Head Cap Screw			Triangle
7.	TU2831	1/2" Split Lockwasher	32.	TU6854	#14 - 3/4" Screw
8.	TU2882	1/2" - 20 Hex Nut	33.	TUT299C	Lint Trap Clip
9.	TU5240	8" Large Shaft Key	34.	TU2504	Handle Assembly w/Cam
10.	TU108	Felt Seal	35.	TU3811	Cam
11.	TU2493	Shaft Retainer	36.	TU6025	Cam Stop
12.	TU3537	Full Nut	37.	TUT338D	Lint Door w/A
13.	TU3536	Jam Nut	38.	TUT254B	Jacket Top Weldment
14.	K108	Spider Replacement	39.	TUT190	Control Panel Assembly
15.	TU8117	Thermostat Assembly			(Two-Timer)
16.	TUT292D	Thermostat Cover W/A		TUT401	Control Panel Assembly
17.	TUT273	Gasket Set, 75 Stack			(Electronic C/M)
18.	TUT279	Lint Trap Net Assembly	40.	TUT222D	Control Panel Mtg.
19.	TUT137D	Lint Trap Frame			Plate W/A (Two-Timer)
20.	TU3211	3/8" - 16 x 2 1/2" Leveling Bolt		TUT352D	Control Panel Mtg.
21.	TU4937	3/8" - 16 Jam Nut			Plate W/A
22.	TU1771	#6 Tinnermen Nut			(Electronic C/M)
23.	TU1979	Door Switch	41.	TU9693	2 1/2" Snap Bushing
24.	TU1770	Insulator	42.	LB74	#14 Speed Nut
25.	TU7733	#8 x 1/2" Self-Drill Screw	43.	TUT184D	Upper Left Panel
26.	TU2373	Door Switch Bracket	44.	TU3219	#6 x 1" Sheet Metal Screw
27.	TU3219	#6 x 1" Sheet Metal Screw	45.	TU5958	1 1/2" Snap Bushing
28.	TUT304C	Front Panel Access Cover	46.	TUT260D	Ignition Module Panel
			47.	TUT206	Hot Surface Ignition
					Module
				TU13409	Direct Spark Ignition
					Module

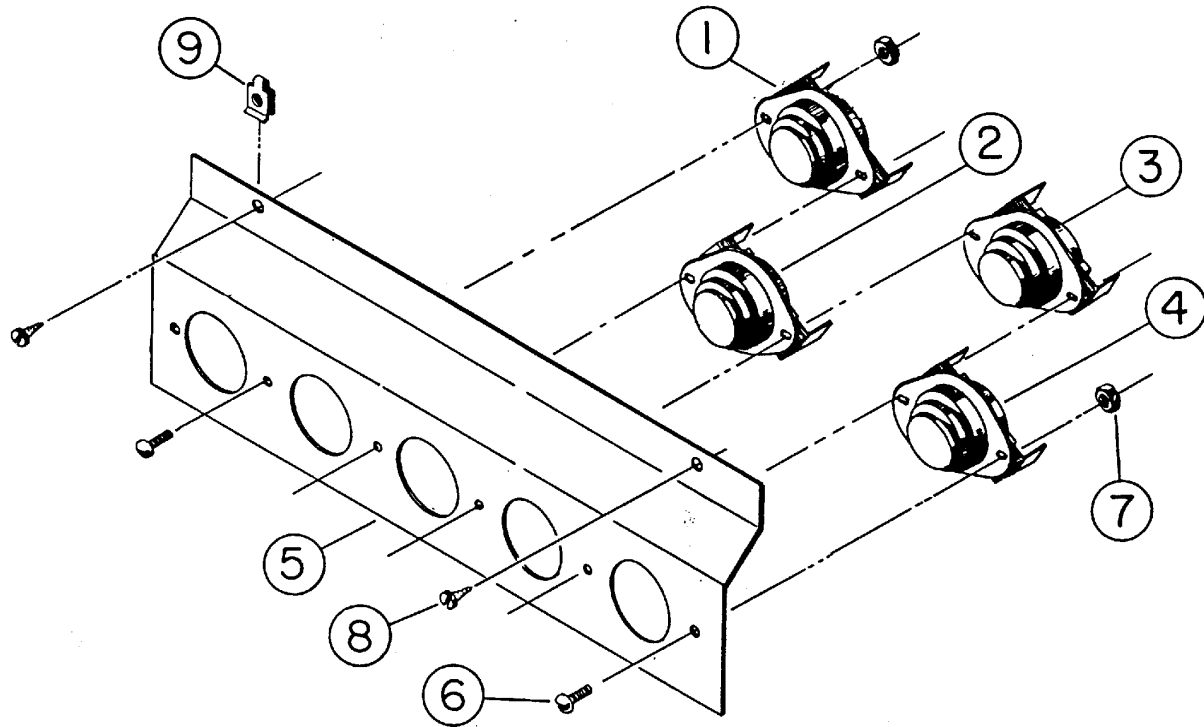
Illustration (Rear View of Dryer)



Parts (Rear of Dryer)

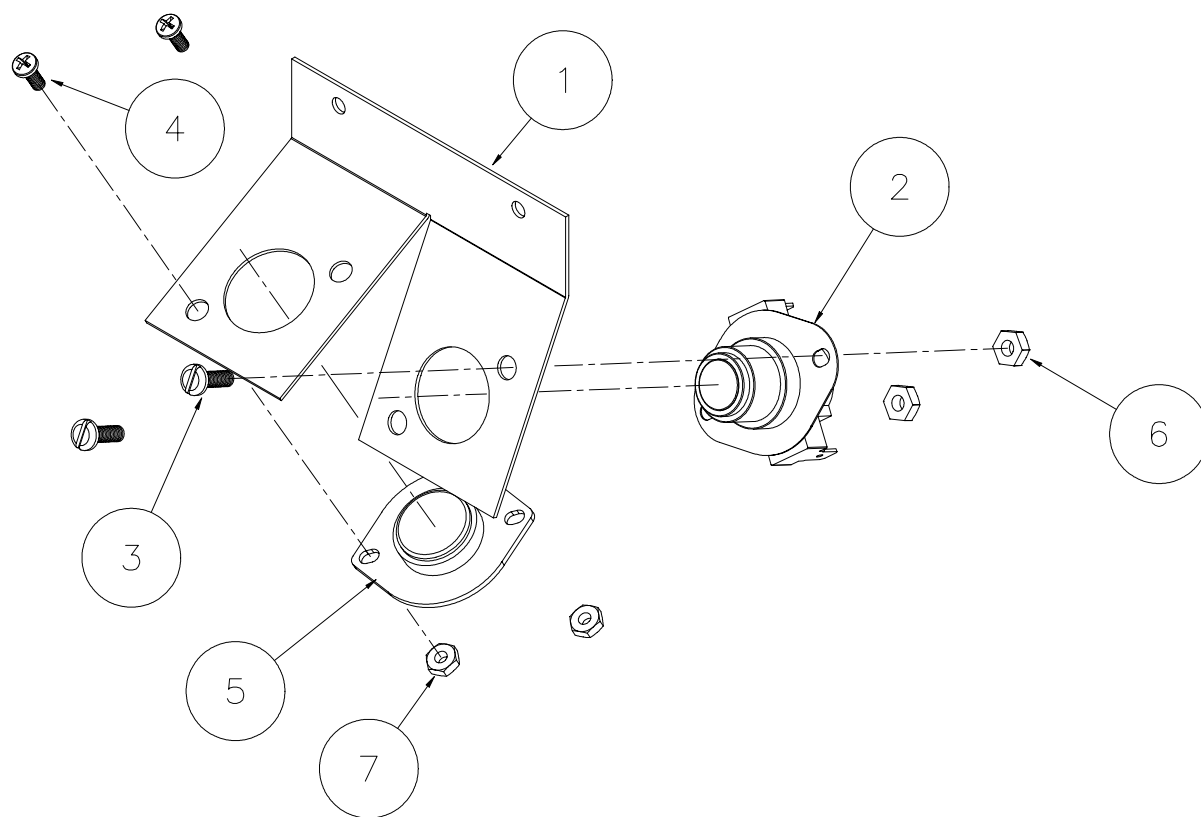
1.	TUT100D	Jacket Welded Assembly
2.	TUT289C	MTR CNTL Box W/A
3.	TU7733	#8 x 1/2" Self-Drill Screw (Pkg. 6)
4.	TUT172C	Left Air Switch Box Cover
5.	TU8206	Air Switch Assembly
6.	TU14095	Belt Guard Cover
7.	TUT394C	Belt Guard
8.	PT87	4L-360 Belt
9.	-----	Basket Motor (<i>see Motor List page</i>)
10.	TU2833	Bushing for Sheave
11.	TU6722	60 cy Gear Sheave (AK51H) w/Bushing
12.	TU7334	60 cy Motor Sheave (AK34H) w/Bushing
13.	TU3211	3/8" - 16 x 2 1/2" Leveling Bolt
14.	FB189	1/4-20 x 1 1/4 Cap Screw
15.	TU5241	Key
16.	TM100	Metric Small Gear Reducer (<i>See Page 54</i>)
17.	TU1851	1/2" Cut Washer
18.	TU2831	1/2" Lock Washer (Pkg. 6)
19.	RC347	1/2"-13 x 1 1/2" Cap Screw
20.	TU4790	Straight Connector
21.	TU4791	Right Angle Connector
22.	504641292	1/2" Greenfield Cable
23.	RC344	1/2"-20 x 3/4 Cap Screw
24.	TU2846	1/2" Lock Washer (Pkg. 6)
25.	TU8608	Belt Adjusting Rod
26.	TU33	Motor Drive Bracket
27.	VSB130	5/16" Cut Washer (Pkg. 6)
28.	TU2814	5/16" Split Lock Washer (Pkg. 6)
29.	C249	5/16" 18 Hex Nut (Pkg. 6)
30.	TU2847	1/2" Cut Washer (Pkg. 6)
31.	TU3124	3/8"-16 x 3/4" Cap Screw
32.	IB140	3/8" Cut Washer
33.	VSB134	3/8" Lock Washer
34.	TU4787	3/8" Hex Nut (Pkg. 6)
35.	TU5439	5/16"-18 x 3/4" Cap Screw
36.	-----	Fan Motor (<i>see Motor List page</i>)
37.	TUT176B	Right Air Switch Box Cover
38.	TU8740	Fan Wheel w/Set Screws
39.	TU4684	Key
40.	TU2476	Felt Seal
41.	TU2473	Side Gasket
42.	TU2474	Top and Bottom Gasket
43.	TUT296B	Upper Blower Mount w/A
44.	TUT163B	Bottom Blower Mount w/A
45.	TU4937	3/8"-16 Jam Nut

Thermostat Assembly—TU8117



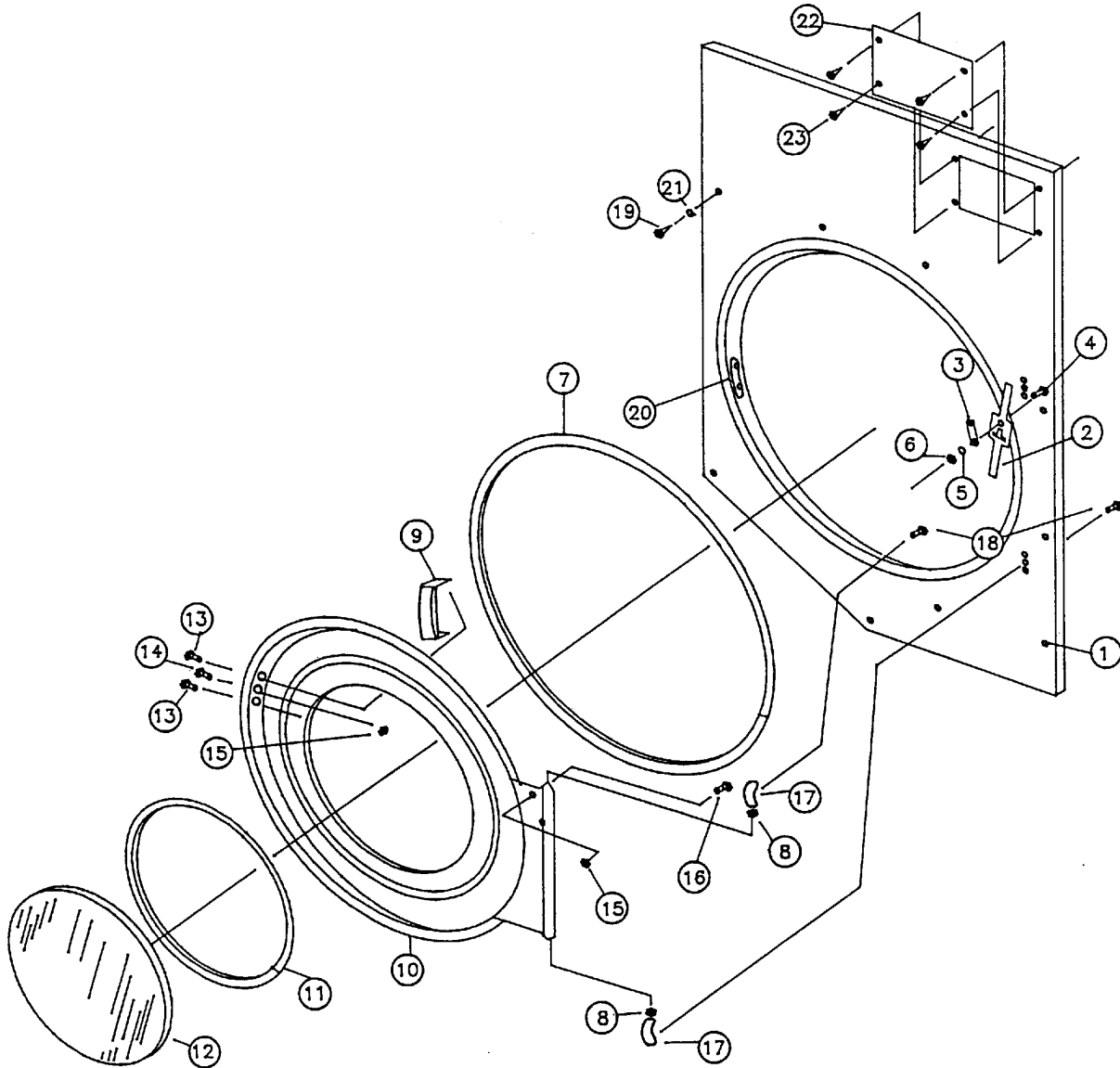
Ref.	No.	Part No.	Description
1		TU3240H	Safety High Limit Thermostat
2		TU3240H	185°F Thermostat
3		TU5150H	150°F Thermostat
4		TU7244H	135°F Thermostat
5		TU5143	Mounting Bracket
6		TU3624	#6-32 x 1/4” Round Head Screw (6 each)
7		TU3400	#6-32 Hex Nut (Pkg. 6)
8		TU7733	#8 x 1/2” Self Drill Screw (Pkg. 6)
9		TU6067	#8 Speed Clip (2 each)

Thermostat Assembly - ESA-00961-0



Ref. No.	Part No.	Description
1	CA-13172	MTG. Bracket
2	EA-00411-0	Switch - 220 Degree
3	SB-00828	#8-32 x 1/2 Screw
4	SB-00952	#6-32 x 3/8 Screw
5	TU11991	Thermistor
6	TU3266	#8-32 Hex Nut
7	TU3400	#6-32 Hex Nut

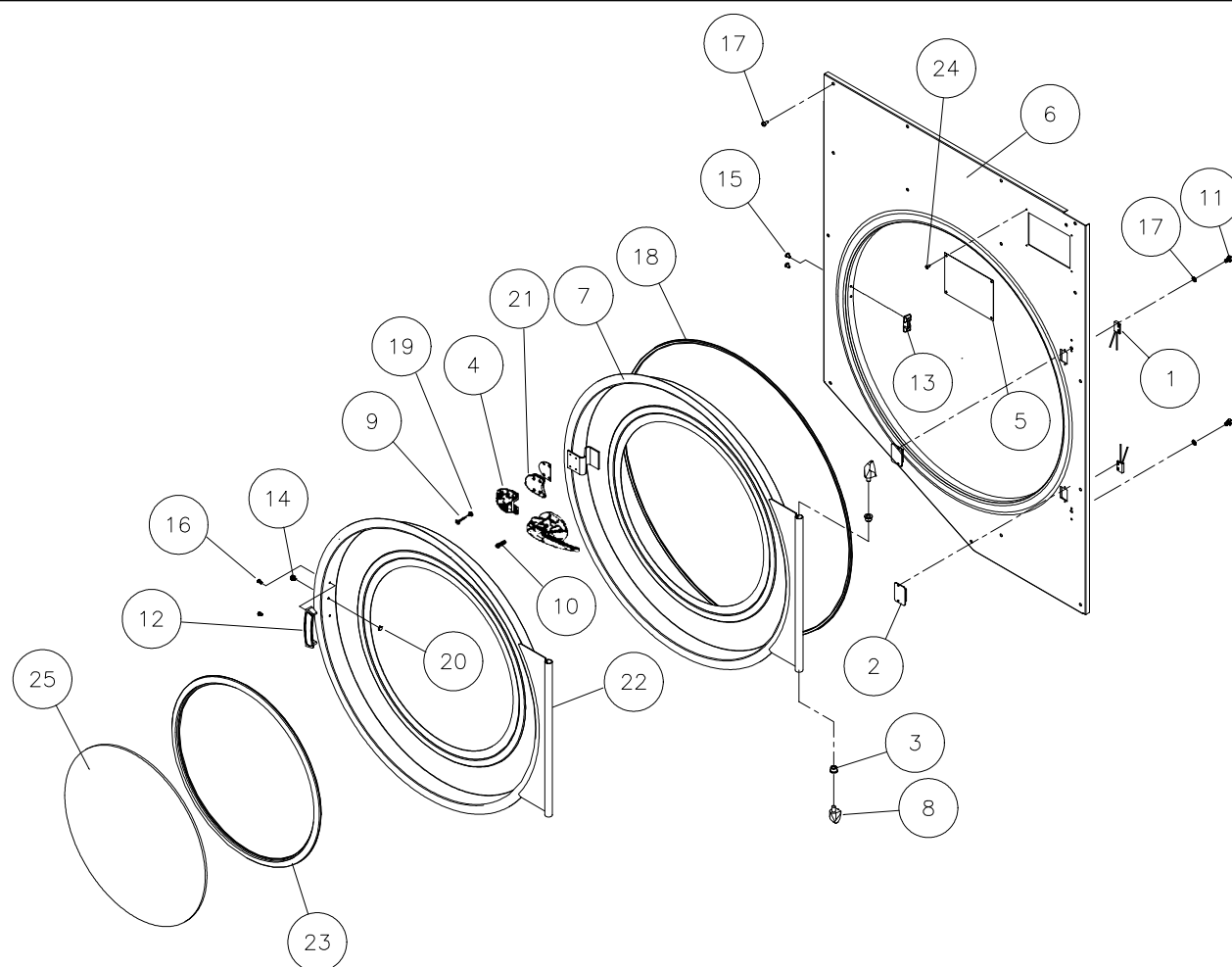
Illustration (Front Panel and Door Assembly)- OPL



TUT272 - COMPLETE ASSEMBLY

1. TUT149D	Front Panel Weld Assembly	15. TU4840	#10-32 Hex Crown Nut (Pkg. 6)
2. TU2194	Door Switch Actuator	16. TU4839	#10-32 x 3/8" Screw (Pkg. 6)
3. TU2105	Actuator Spring	17. TU2236	Hinge Posts
4. M262	#8-32 TR. HD. Screw	18. TU2836	5/16"-18 x 1/2" Hex HD. Cap Screw
5. FB187	#8 Split Lock Washer (Pkg. 6)	19. TU2878	#10 x 5/8" S.M.S.
6. TU3266	#8-32 Hex Nut	20. TU7456	Door Catch Assembly with Rivets
7. TU5288	Basket Door Seal	21. FB187	#10 Lock Washer
8. PIF172	Delrin Bearing	22. TUT304C	Front Panel Access Door
9. TU2874	Basket Door Handle	23. TU7733	#8 x 1/2" Self Drill Screw
10. TU5859	Basket Door		
11. TU7169	Rubber Gasket		
12. TU7862	Door Glass		
13. TU3215	#10-32 x 3/8" Taptite Scr.		
14. TU3163	Catch Pin		

Front Panel Assembly - Reed Switch - OPL

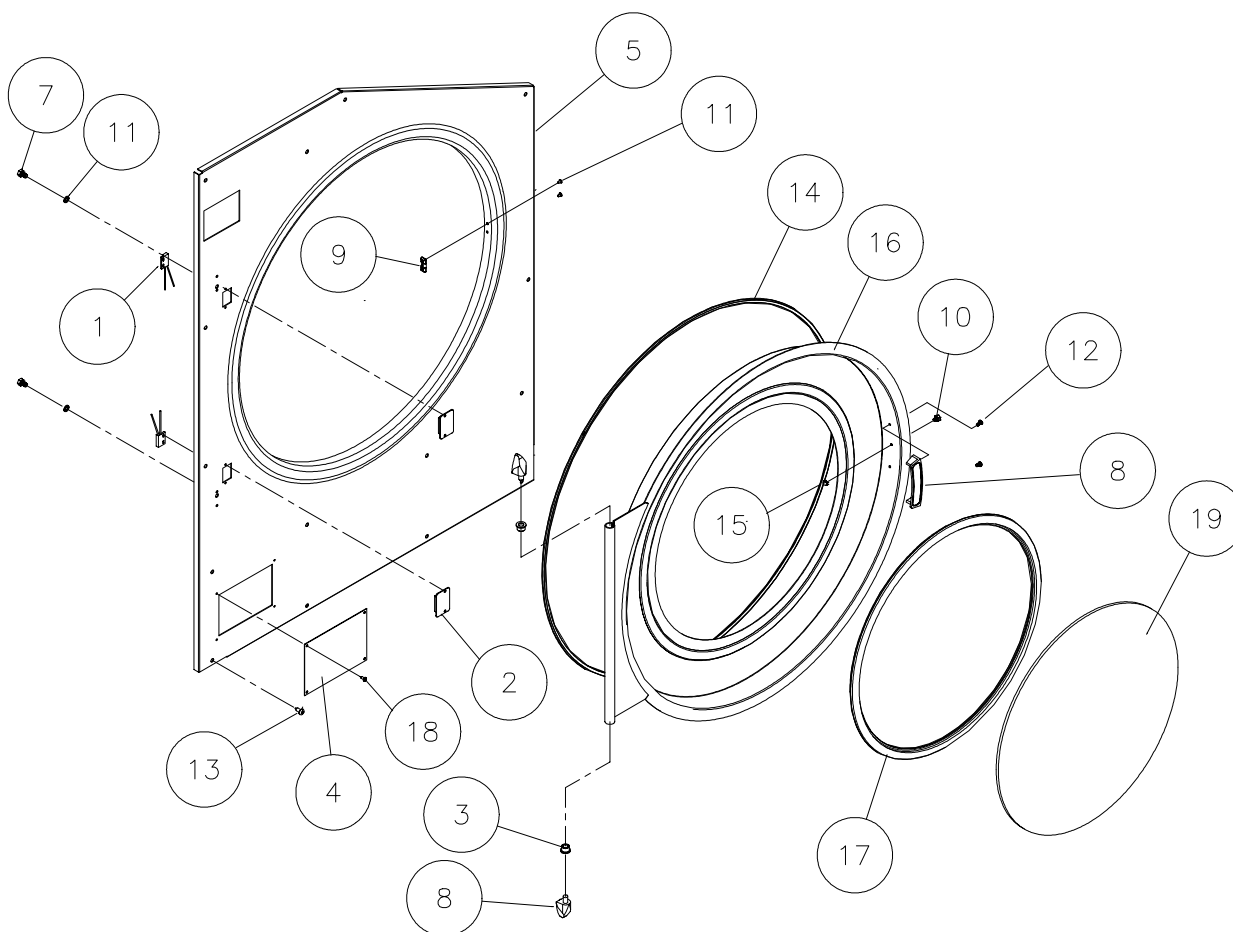


TUT452 - COMPLETE ASSEMBLY W/ FRICTION CATCH
TUT458 - COMPLETE ASSEMBLY W/ DOOR LATCH

1	EA-00652-0	SWITCH, REED	14	TU3163	PIN, CATCH
2	EA-00827-0	MTG PLATE, REED SWT.	15	TU3213	RIVET
3	PIF172	BUSHING, HINGE DELRIN	16	TU3215	10-32 SCREW
4	TUA2319H*	DR. LATCH	17	TU3209	SCREW, SHT. MTL. #14
5	TUT304C	COVER PLATE	18	TU5288	BASKET DOOR SEAL
6	TUT451WHT	FRONT PANEL - OPL	19	TU3785*	#8 EXT. TOOTH L.W.
7	TU14467*	BSKT DR, OPTIONAL	20	TU4840	#10-32 HEX CROWN NUT
8	TU2236	HINGE, CAST POST	21	TU5503*	SPACER, DOOR LATCH
9	TU2686*	#8-32 PAN HD SCR	22	TU5859	BSKT DR, STANDARD
10	TU2687*	#8 PH HD SCR.	23	TU7169	GASKET, DOOR GLASS
11	TU2836	SCREW, HEX HD 5/16-18	24	TU7733	#8 x 1/2 S.M. SCREW
12	TU2874	HANDLE	25	TU7862	GLASS, DOOR 20-1/4
13	TU2876	LATCH, DELRIN FRICTION			

* - PARTS REQUIRED FOR FREEZER TYPE DOOR LATCH

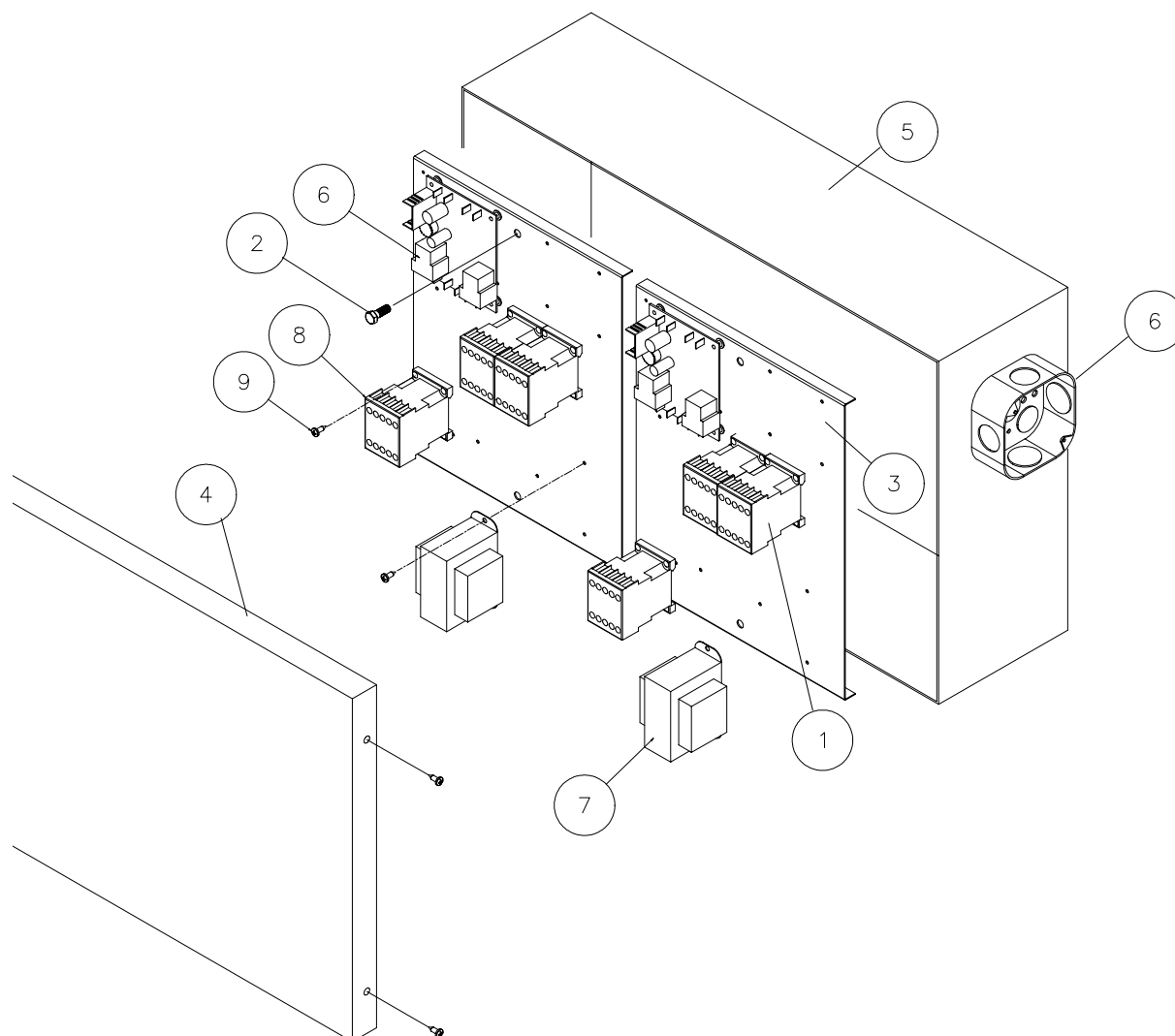
Front Panel Assembly - Reed Switch - Coin



TUT455 - COMPLETE ASSEMBLY (FRICTION CATCH)
TUT459 - COMPLETE ASSEMBLY (DOOR LATCH) NOT SHOWN

1	EA-00652-0	SWITCH, REED	11	TU3213	RIVET
2	EA-00827-0	MTG PLATE, REED SWT.	12	TU3215	10-32 SCREW
3	PIF172	BUSHING, HINGE DELRIN	13	TU3209	SCREW, SHT. MTL. #14
4	TUT304C	COVER PLATE	14	TU5288	BASKET DOOR SEAL
5	TUT454WHT	FRONT PANEL - COIN	15	TU4840	#10-32 HEX CROWN NUT
6	TU2236	HINGE, CAST POST	16	TU5859	BSKT DR, STANDARD
7	TU2836	SCREW, HEX HD 5/16-18	17	TU7169	GASKET, DOOR GLASS
8	TU2874	HANDLE	18	TU7733	#8 x 1/2 S.M. SCREW
9	TU2876	LATCH, DELRIN FRICTION	19	TU7862	GLASS, DOOR 20-1/4
10	TU3163	PIN, CATCH			

Motor Control Box Assembly - Reversing Shown

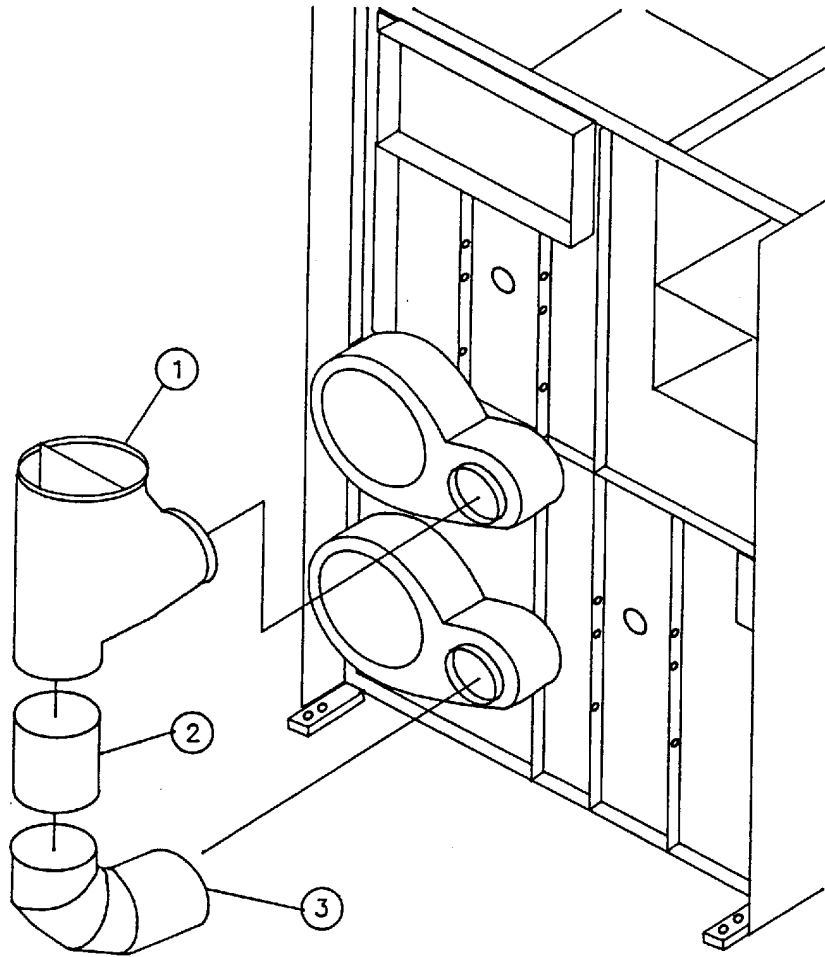


Ref.

No. Part No. Description

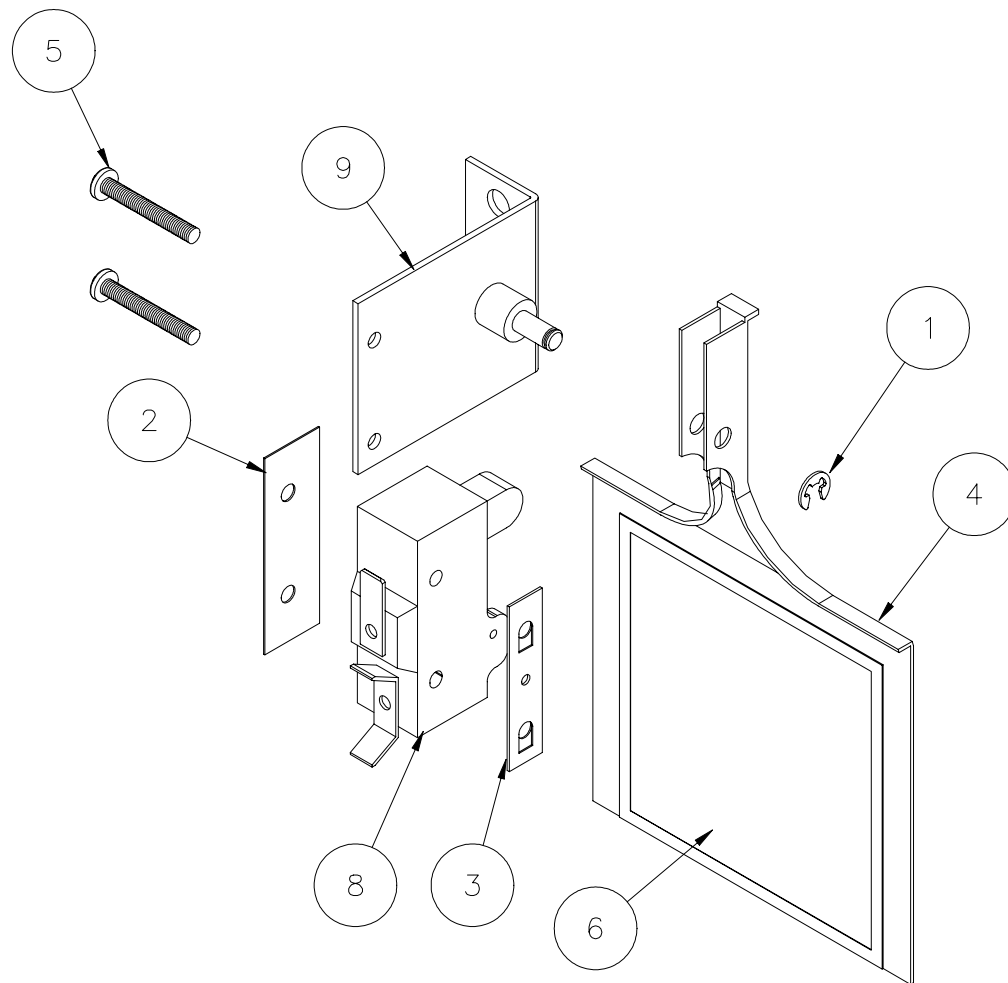
1	EA-00685-0	24V Reversing contactor
2	RC344	1/4-20 H.H. Screw
3	TUT194C	Control panel
4	TUT248D	Motor control box cover
5	TUT289C	Motor control box W/A
6	TU12874	Reversing Timer
7	TU13515	Transformer, 120/24V
	TU13480	Transformer, 200-240V/24V
	TU13514	Transformer, 460/24V
8	TU13516	Contactor, 24VAC
9	TU7733	Screw - self drilling 8 - 18 X 1/2"

Exhaust Duct Assembly - TUT130D



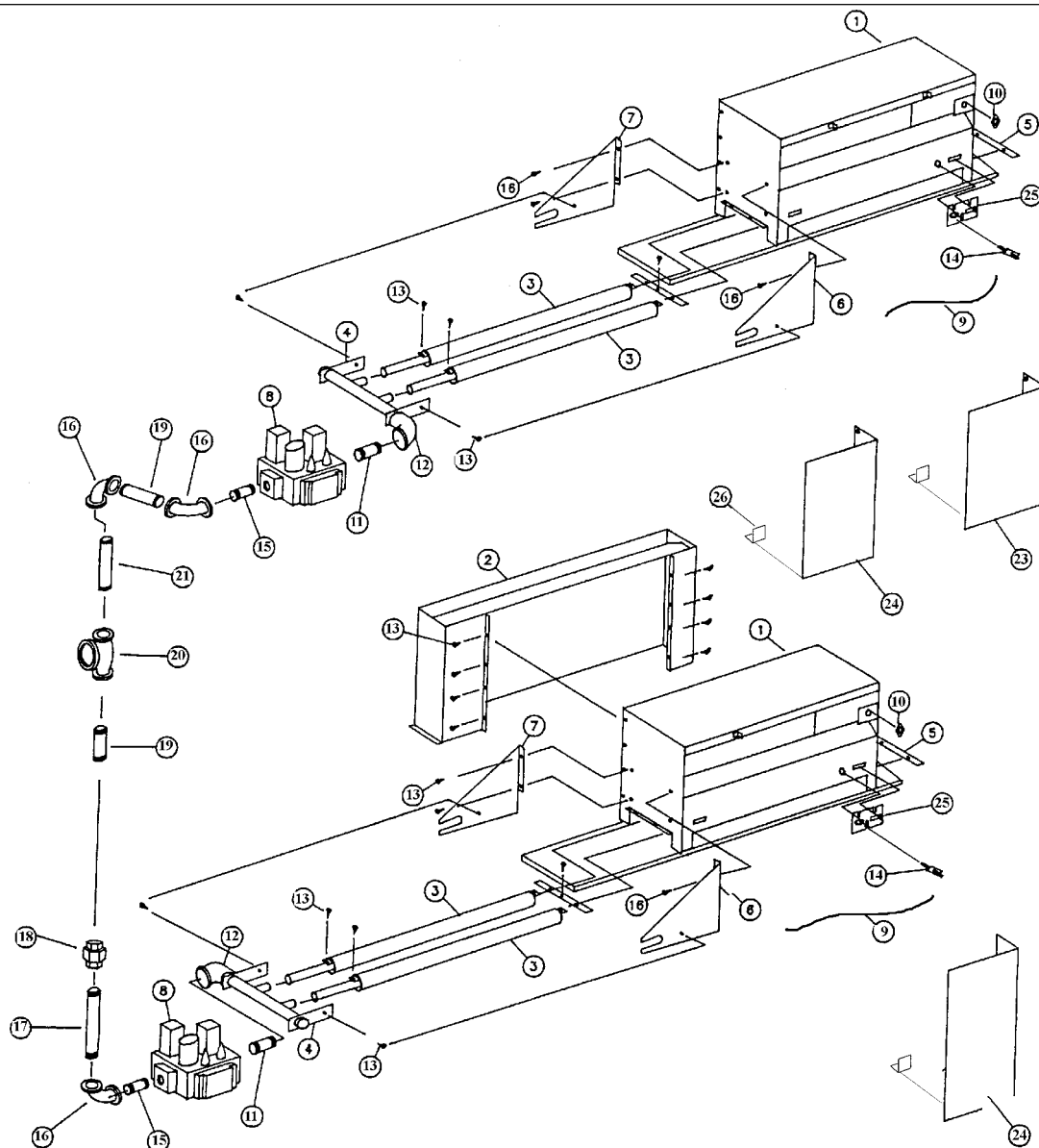
Ref No.	Part No.	Description
1.	TUT343D	Exhaust Duct "Tee" (w/Divider)
2.	TUT270C	Exhaust Duct Connector
3.	TU7375	8" Extended Elbow

Air Switch Assembly - TU8206



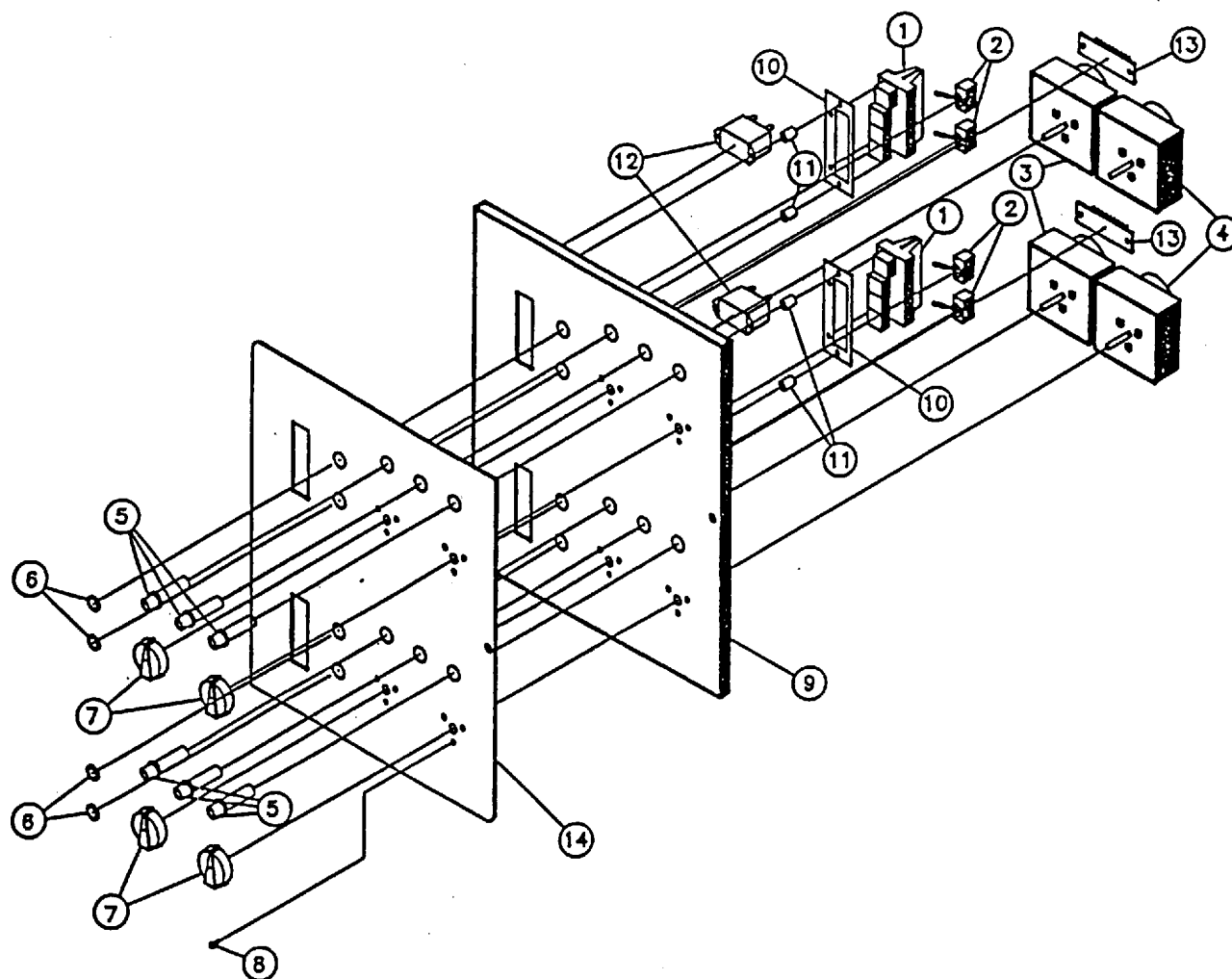
Ref No.	Part No.	Description
1	F888	E-RING
2	TU1770	INSULATOR
3	TU1771	#6 TINNED NUT
4	TU2463	ACTUATOR ARM
5	TU3219	#6 x 1 S.M.S.
6	TU3476	DECAL
7	TU7733	#8 x 1/2 S.M.S.
8	TU8155	MICRO SWITCH
9	TU8171	BRACKET ASM.

Gas Heating Unit Assembly



- | | | | |
|---------------|----------------------------|----------------|----------------------------|
| 1. TUT237D | Bonnet Welded Assembly | 14. GA-00764-0 | Electrode |
| 2. TUT113D | Bottom Bonnet Duct W/A | 15. 390401021 | 1/2" x 2 1/2" Lg. Nipple |
| 3. TUT235B | Burner Assembly | 16. 390501053 | 1/2" Elbow |
| 4. TUT125C | Manifold Assembly | 17. 390401013 | 1/2" x 7" Lg. Nipple |
| 5. TUT121A | Burner Retainer | 18. OP314 | 1/2" Union |
| 6. TUT128D | Manifold Support Right | 19. OP308 | 1/2" x 4" Lg. Nipple |
| 7. TUT127D | Manifold Support Left | 20. TUT269 | 1/2" x 1/2" x 1" Tee |
| 8. TUT261 | Gas Control Valve NG | 21. TU4651 | 1/2" x 6" Lg. Nipple |
| TUT297 | Gas Control Valve LP | 22. TUT231D | Top Rear Intake Deflector |
| 9. GA-00803-0 | Lead Suppresion | 23. TUT230D | Top Front Intake Deflector |
| 10. TU13678 | High Temp Thermostat | 24. TUT232 | Bottom Intake Deflector |
| 11. TU4607 | 3/4" x 2 1/2" Lg. Nipple | 25. TUT239D | Ignitor Mounting Bracket |
| 12. TU4602 | 3/4" Elbow | 26. TUT234A | Intake Bracket |
| 13. TU7733 | #8 x 1/2" Self-Drill Screw | | |

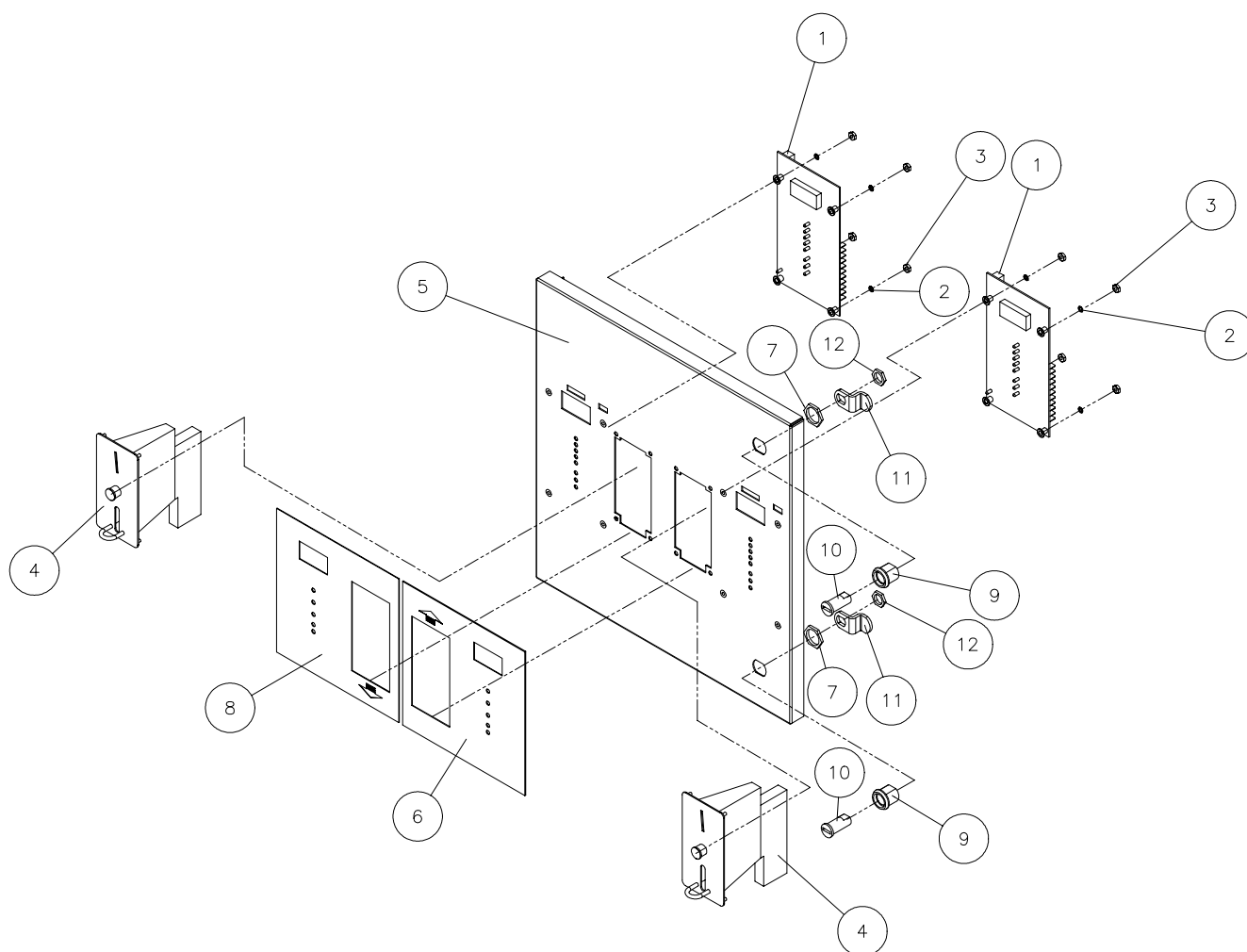
Timer Control Panel Assembly



- | | |
|-------------|-----------------------------------------|
| 1. TU11510 | Push Button Switch 4-Pole |
| 2. FG147 | Toggle Switch |
| 3. TU12932 | Timer 60 Min. 24V |
| 4. TU12933 | Timer 15 Min. 24V |
| 5. TUT316 | Light Led. 24V Red |
| 6. TU3805 | Lock Ring |
| 7. TU2555 | Knob |
| 8. TU7733 | #8-18 x 1/2" Self-Drill S.M.S. (Pkg. 6) |
| 9. TUT185D | Control Panel Complete |
| 10. TUT191A | Switch Mounting Plate |
| 11. F943 | Spacer |
| 12. F1300 | Relay |
| 13. TU8629 | Terminal Strip |
| 14. TUT162 | Name Plate |
| *15. SV136 | #6-32 x 15/16" Rd. Hd. Scr. |
| *16. TU3400 | #6-32 Hex Nut |

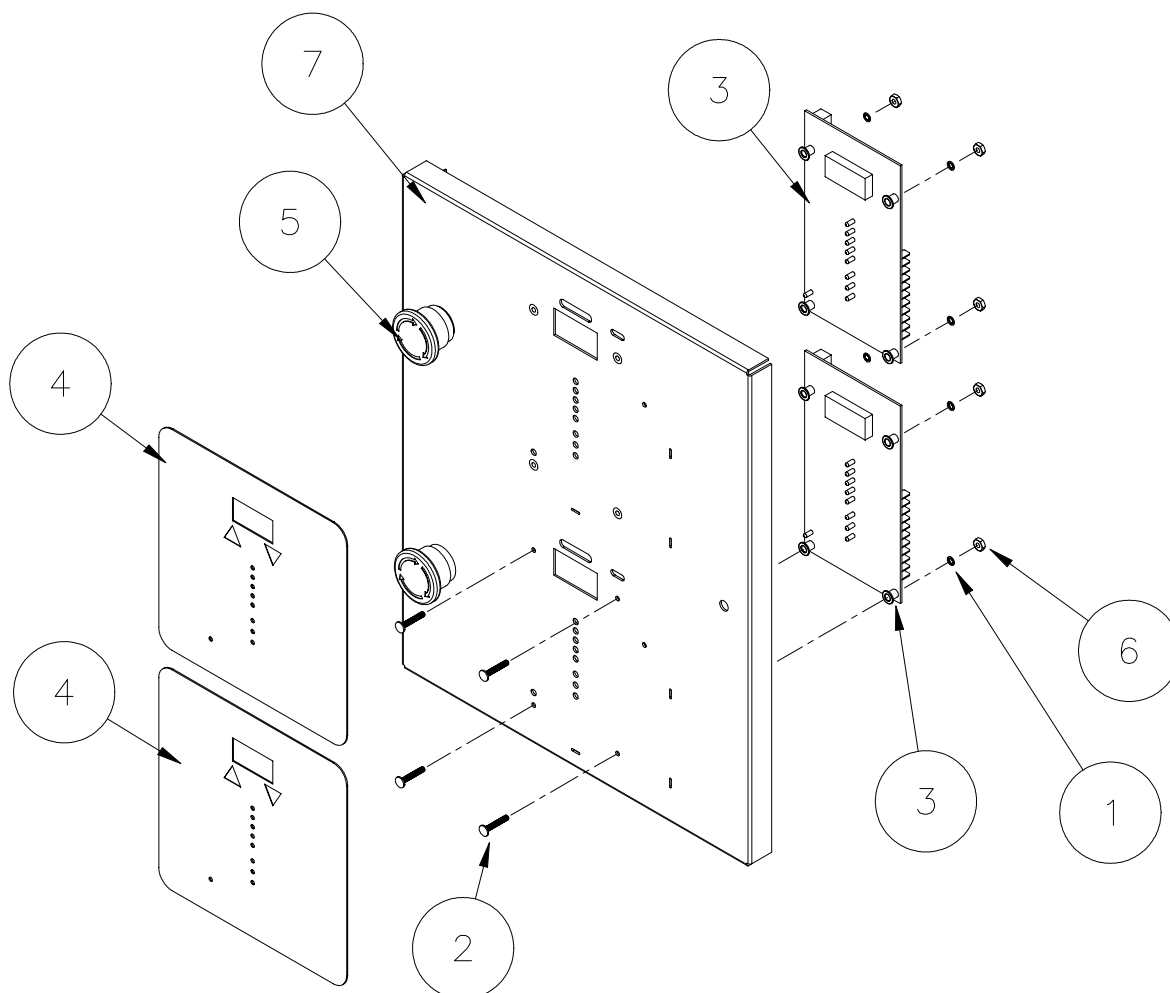
*** NOT SHOWN**

DMPC - Control panel assembly



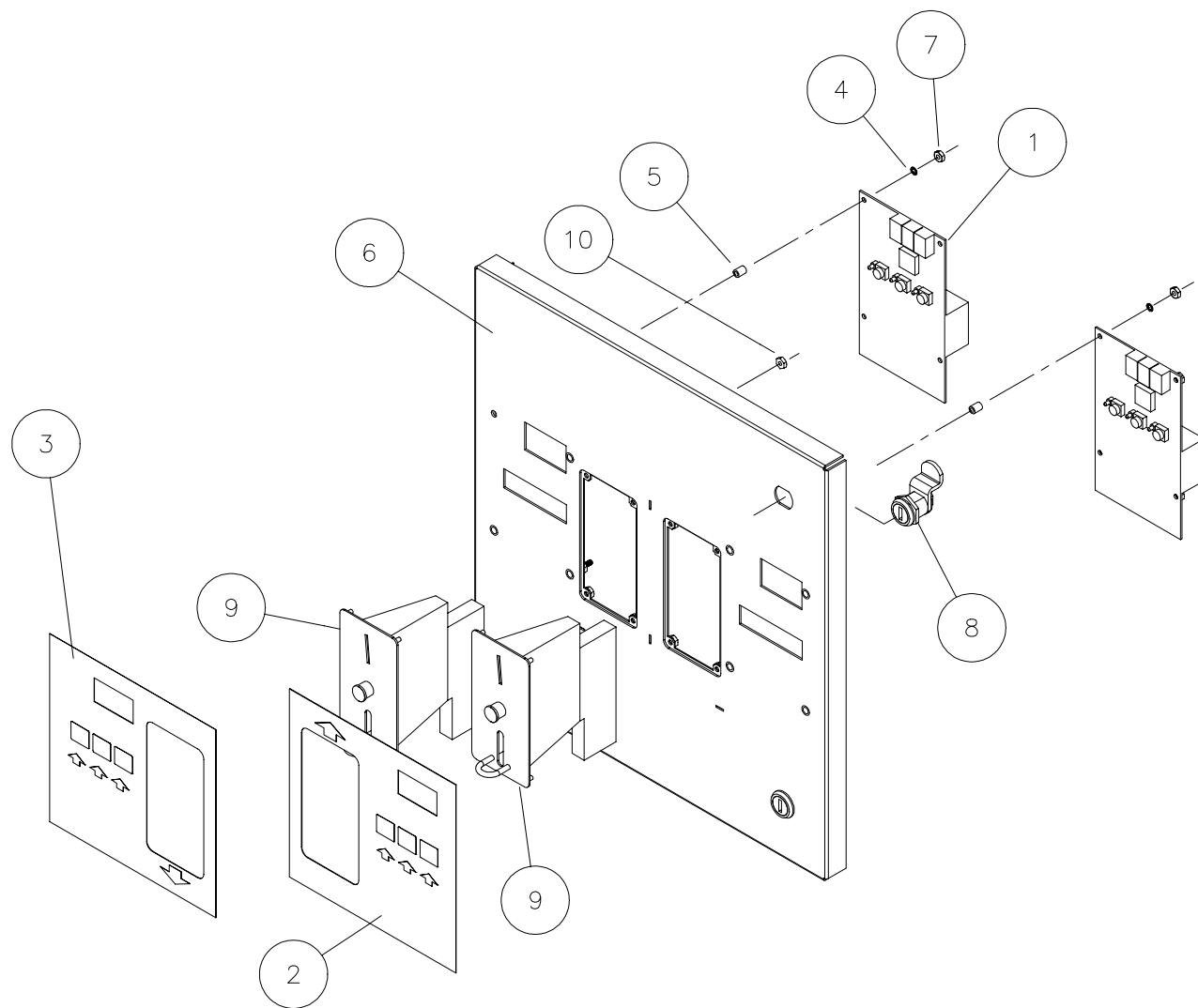
Ref. No.	Part No.	Description
1	TU14404	CONTROLLER, OPL/COIN BOARD
2	M270	WASHER, LOCK #6 INT. TOOTH
3	TU3400	NUT, HEX #6-32
4	TUD0336	COIN DROP - HANKE
5	TU14800	DOOR, CONTROL BOX WELDMENT
6	TU14451	OVERLAY, DMP/COIN/RIGHT/UPPER
7	3186-2	NUT, LOCK BODY - 3186
8	TU14406	OVERLAY, DMP/COIN/LEFT/LOWER
9	3186-3	LOCK BODY - 3186
10	3186-5	LOCK CYLINDER - 3186
11	3186-4	CAM, LOCK - 3186
12	3186-1	NUT, LOCK CYLINDER - 3186

DMP - Control panel assembly



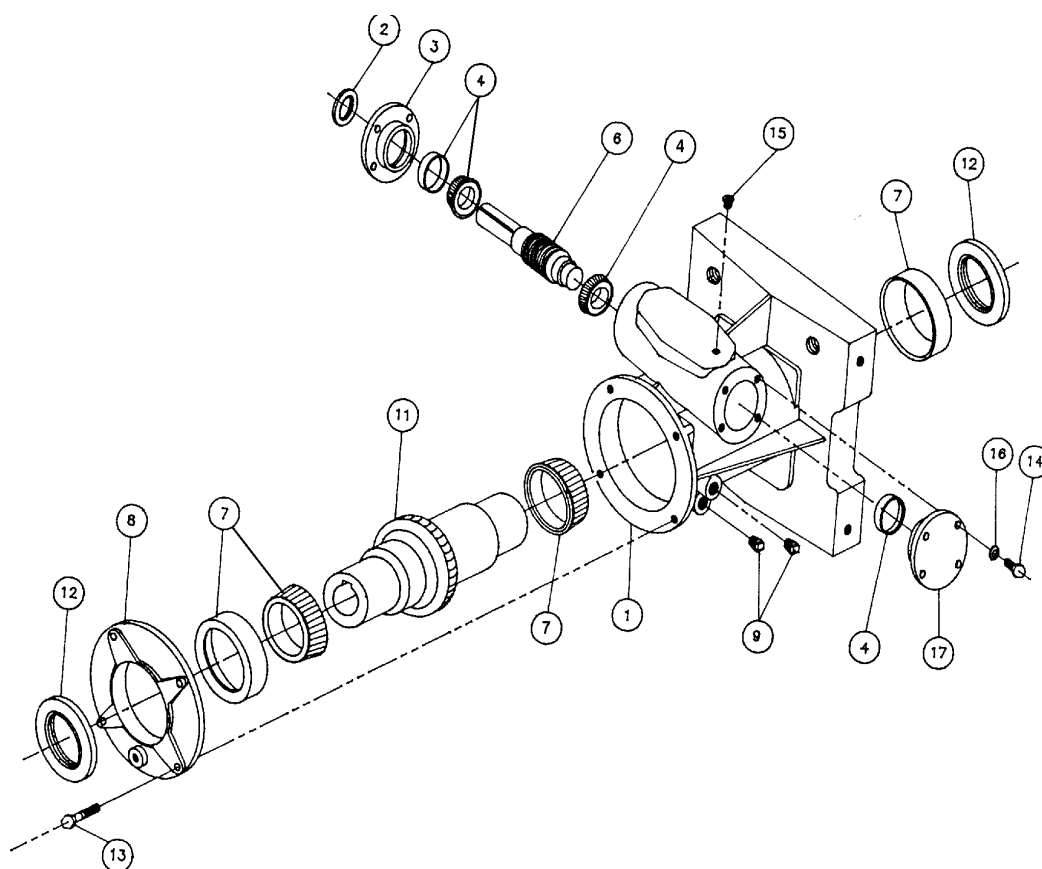
Ref.			
No.	Part No.	Description	
1	M270	#6 Lockwasher	
2	TU12253	#6-32 Stud	
3	TU14404	DMP Control	
4	TU14405	DMP Overlay	
5	TU14435	Emergency stop	
6	TU3400	#6-32 Nut	
7	TUT444	DMP Panel W/A	

DX3C - Control panel assembly



Ref.		
No.	Part No.	Description
1	254/00016/00	CONTROLLER, OPL/COIN BOARD
2	254/00032/00	OVERLAY (LEFT)
3	254/00033/00	OVERLAY (RIGHT)
4	M270	WASHER, LOCK #6 INT. TOOTH
5	TU14701	SPACER
6	TU15178	DX3C CONTROL PANEL
7	TU3400	NUT, HEX #6-32
8	TU4822	LOCK W/ KEY
9	TUD0336	COIN DROP - HANKE
10	TUD0367	#5-40 HEX NUT

Parts—Small Gear Reducer—TM100



				Quantity
1	TM103	Housing		1
2	TM104	Small Seal		1
3	TM105	Small Open End Cap		1
4	TM107	Small Bearing Cup & Cone		2
6	TM101	Worm 1-1/2" x 7-1/8"		1
7	TM110	Large Bearing Cup & Cone		2
8	TM112	Large End Cap		1
9	TM115	1/4" Pipe Plug		2
11	TM102	Worm Gear		1
12	TM120	Oil Seal		2
13	TU2623	Cap Screw 3/8" - 16 x 1-1/2"		4
14	TU2839	Cap Screw 1/4" - 20 x 7/8"		8
15	TM121	Vent Plug 1/4" NPT		1
16	RC349	1/4" Internal Tooth Lockwasher		8
17	TM118	Small Closed End Cap		1